Phytoplankton, picophytoplankton, nanophytoplankton and bacterioplankton monitoring in the Western Isles Region of the Bay of Fundy during 2001-2002

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Phytoplankton, Picophytoplankton, Nanophytoplankton and Bacterioplankton Monitoring in the Western Isles Region of the Bay of Fundy during 2001-2002

by

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ABSTRACT

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A monitoring program was initiated in May 1987 to study phytoplankton populations in the Western Isles region of the Bay of Fundy, southwest New Brunswick. This report provides another 2 yr of data to add to the results from 1987-2000 published previously. Samples were collected for phytoplankton distribution and abundance as well as plant nutrients (ammonia, nitrite, nitrate, phosphate and silicate) at five locations – Brandy Cove, Lime Kiln Bay, Deadmans Harbour, the Wolves Islands and mid Passamaquoddy Bay. From May to October, 2001, measurements of the picoplankton (including the cyanobacterium, Synechococcus, the nanophytoplankton, and the heterotrophic bacterioplankton) were also made at these five locations. Additional parameters measured included secchi depth, and depth profiles for fluorescence, temperature and salinity. Samples were collected at the surface from all locations and additional discrete depths of 10 m, 25 m, and 50 m at the Wolves Islands, and 5 m and 15 m depths were initiated in Lime Kiln as of June 2000.

Species observed at concentrations ≥10,000 cells•L^{-1} during both 2001 and 2002 were: *Alexandrium fundyense*, *Asterionellopsis glacialis*, *Chaetoceros debilis*, *Chaetoceros* spp., *Cylindrotheca closterium*, *Dactyliosolen fragilissimus*, *Dictyocha speculum*, *Ditylum brightwellii*, *Guinardia delicatula*, *Heterocapsa triquetra*, *Leptocylindrus danicus*, *Leptocylindrus minimus*, *Mesodinium rubrum*, *Pseudo-nitzschia delicatissima* group, *Pseudo-nitzschia seriata* group, *Skeletonema costatum*, *Thalassiosira nordenskioeldii* and *Thalassiosira* spp. There were seven species that occurred at concentrations greater than 100,000 cells•L^{-1} in 2001 and in 2002, there were eleven. *M. rubrum* and the *P. delicatissima* group have been observed at concentrations >10,000 cells•L^{-1} during all of the past 16 yr. Highest concentrations of *A. fundyense* (the organism responsible for producing paralytic shellfish toxins) observed during 2001 were 6.78 x 10^4 cells•L^{-1} on July 17 while the highest densities recorded for 2002 were 1.52 x 10^5 cells•L^{-1} on July 23.

During the 2 yr, the lowest temperature (0.8°C) was measured at Brandy Cove in 2002 while the highest temperature was recorded at the mid-Passamaquoddy Bay site (16.2°C) in 2002. Lowest salinities (24.64 psu) were measured at Brandy Cove. Silicate values ranged from 0.02 to 14.37 µM; phosphate levels ranged from 0.26 to 1.56 µM; ammonia ranged between 0.46 to 6.61 µM; nitrate values were between 0.02 and 10.81 and nitrite values were between 0.04 and 0.87 µM.

RÉSUMÉ

Martin, J.L., M.M. LeGresley and W.K.W. Li. 2014. Phytoplankton, picophytoplankton, nanophytoplankton and bacterioplankton monitoring in the Western Isles region of the Bay of Fundy during 2001-2002. Can. Tech. Rep. Fish. Aquat. Sci. 3075: vii + 108 p.

Un programme de surveillance a été lancé en mai 1987 pour étudier le phytoplancton de la région ouest de la Baie de Fundy, au sud-ouest du Nouveau- Brunswick. Ce rapport ajoute deux années de données aux résultats déjà publiés des années 1987-2000. Les échantillons d'eau pour la distribution et l'abondance de phytoplancton et de nutriments (silicate, phosphate, nitrate, nitrite et ammoniac) ont été prélevés à cinq emplacements (Brandy Cove, la baie Lime Kiln, Deadmans Harbour, près des îles Wolves et mi-baie Passamaquoddy). En plus, de mai à octobre 2001, le picoplancton (ce qui inclue la cyanobactérie, *Synechococcus*, le nanophytoplancton et le bactérioplancton hétérotrophe) a été analysé. Des paramètres additionnels tels que la profondeur du secchi, le profil en profondeur de la température, de la fluorescence et de la salinité ont été mesurés aussi. Aux cinq emplacements, les échantillons ont été prélevés à la surface ainsi qu'à 10 m, 25 m et 50 m aux îles Wolves et à 5 m et 15 m à la baie Lime Kiln commençant en juin 2000.

Les espèces principales (≥10 000 cellules•L^{-1}) pendant les deux anneés 2001-2002 étaient: *Alexandrium fundyense*, *Asterionellopsis glacialis*, *Chaetoceros debilis*, *Chaetoceros* spp., *Cylindrotheca closterium*, *Dactyliosolen fragilissimus*, *Dictyocha speculum*, *Ditylum brightwellii*, *Guinardia delicatula*, *Heterocapsa triquetra*, *Leptocylindrus danicus*, *Leptocylindrus minimus*, *Mesodinium rubrum*, complexe *Pseudo-nitzschia delicatissima*, complexe *Pseudo-nitzschia seriata*, *Skeletonema costatum*, *Thalassiosira nordenskioeldii* et

Thalassiosira spp. En 2001, sept espèces ont été observé en concentrations >100 000 cellules•L^{-1} tandis qu'en 2002 on en rencontre onze espèces. Le complexe *P. delicatissima* et *M. rubrum* ont été observés en concentrations >10 000 cellules•L^{-1} pendant les 16 dernières années. Les concentrations maximales d'*Alexandrium fundyense* (l'organisme responsable de l'intoxication paralysante par les mollusques) atteignaient 6.78 x 10^4 cellules•L^{-1} le 17 juin, 2001 et 1.52 x 10^5 cellules•L^{-1} le 23 juillet, 2002.

Pendant ces deux années, la température minimale (0.8°C) a été observée à Brandy Cove tandis que la température maximale (16.2°C) a été notée à la station mi-baie Passamaquoddy ces deux extrêmes survenant en 2002. La salinité minimale (24.67) a eu lieu à Brandy Cove. La teneur en silicate variait de 0.02 à 14.37 µM; en nitrate de 0.02 à 10.81 µM; en phosphate de 0.24 à 1.56 µM; en ammoniac de 0.46 à 6.61 µM; et en nitrite de 0.04 à 0.87 µM.

INTRODUCTION

A phytoplankton monitoring program was introduced in the southwestern New Brunswick portion of the Bay of Fundy in 1987. The study was initiated due to growing concerns that the incidents involving harmful algal blooms (HABs) seemed to be increasing in intensity, frequency and geographic distribution throughout the world (Anderson 1989; Smayda 1990; Hallegraeff 1993, 2010; Fu et al. 2012). Incidences such as fish mortalities, especially those held captive in net pens, have also been growing. Some of these increases can be attributed to increased awareness both in the scientific and public communities, as well as the increased use of inshore coastal waters for aquaculture, tourism and other activities.

The purposes of the phytoplankton study when it was initiated were to: establish baseline data on phytoplankton populations because little detailed work had been published since earlier studies by Gran and Braarud (1935); identify harmful algal species that could potentially cause harm to the aquaculture industry; provide an early warning to the industries by sorting and identifying samples soon after collection; and determine patterns and trends in phytoplankton populations. The intent was also to determine whether there are environmental changes as a result of the Atlantic salmon (*Salmo salar*) aquaculture industry. In addition, the monitoring could provide an early warning to regulatory agencies such as the Canadian Food Inspection Agency (CFIA) for the occurrences of species that produce toxins resulting in shellfish toxicities and closures of shellfish beds to harvesting.

HABs have been known to affect fish through neurotoxins, gill damage (mechanically or through the production of hemolytic substances) or altering dissolved oxygen levels (Anderson et al. 2001). Farmed fish are particularly vulnerable to harmful phytoplankton blooms because they do not have the luxury of being able to swim away to avoid blooms. Adverse effects can include mortality or loss of growth. Due to the economic consequences, monitoring can give fish farmers warning so they can adjust harvesting schedules, delay the entry of smolts and/or modify feeding schedules (Chang et al. 2005).

Although the majority of phytoplankton species occur in the environment without causing adverse effects, there are a few that are known to cause harm. For example, in the Bay of Fundy, *Alexandrium fundyense* and *Pseudo-nitzschia pseudodelicatissima* are species responsible for producing toxins associated with the syndromes paralytic shellfish poisoning (PSP) and amnesic shellfish poisoning (ASP or domoic acid poisoning). In these cases, shellfish that had been feeding on harmful species accumulate toxins with no obvious effects to the shellfish themselves. The toxins are then stored in their tissues and when the shellfish are eaten by vertebrate consumers, including humans, illness and, in some cases death, can result. PSP toxins and resulting shellfish toxicity have been around in the Bay of Fundy for hundreds of years (Prakash et al. 1971, Martin and Richard 1996) and both our studies and PSP shellfish toxicity results show that *A. fundyense* occurs annually (Martin and White 1988; Martin et al. 1999, 2001, 2006a).

Domoic acid was first detected in shellfish in the Bay of Fundy in 1988 and the causative species was determined to be *P. pseudodelicatissima* (Martin et al. 1990; Haya et al. 1991). During this event, the shellfish harvesting areas affected were located in Passamaquoddy Bay. It was not until 1995 that shellfish beds were closed again in the Bay of Fundy as a result of unacceptable levels of domoic acid and, in this case, the areas affected were outside Passamaquoddy Bay (Martin et al. 1998).

A. fundyense has not only been responsible for human illnesses as a result of PSP, but it has also affected fisheries. For example, in 1976 and 1979, hundreds of tonnes of Atlantic herring, *Clupea harengus harengus*, died from PSP toxins that the herring had accumulated through the food chain (White 1980). Atlantic salmon (*Salmo salar*) in net pens were affected by PSP toxins in the Bay of Fundy in 2003 and 2004 (Martin et al. 2006b; 2008; Burridge et al. 2010). In 1987, 14 humpback whales died after feeding on mackerel (*Scomber scombrus*) that had eaten zooplankton that in turn had fed on *A. fundyense* (MacKenzie 1988; Haya et al. 1990). There has been the suggestion that right whales feeding on contaminated zooplankton in Grand Manan Basin could potentially experience a decrease in respiratory capabilities, feeding behaviour and reproductive condition (Durbin et al. 2002).

Results from the earlier years of the monitoring program have been published previously (Wildish et al. 1988, 1990; Martin et al. 1995, 1999, 2001, 2006a). This report presents results from analyses of phytoplankton, plant nutrients, temperature and salinity during the 2 yr, 2001 and 2002.

In 2001, the phytoplankton monitoring program was expanded to encompass measurements

of (i) picophytoplankton - including the cyanobacterium *Synechococcus*, (ii) nano-phytoplankton and (iii) heterotrophic bacterioplankton. This document also reports the time series of these measurements from May to October, 2001 at the 5 stations: Brandy Cove, mid Passamaquoddy Bay, Deadmans Harbour, Lime Kiln Bay and the Wolves Islands.

MATERIALS AND METHODS

The number of sampling sites in the southwest New Brunswick area of the Bay of Fundy has changed since the program started in 1987. Initially, 12 sites were sampled with 10 located in the Letang area, where the majority of the aquaculture sites were located at that time, and the remaining two sites located in Harbour de Lute (Campobello Island), in close proximity to another aquaculture site. The following year, the number of sampling sites expanded to 18, with additional sites in Passamaquoddy Bay around Deer Island, Deadmans Harbour and the offshore site at the Wolves Islands. In 1992, sampling was reduced, due to financial constraints, to the four stations that continue to be monitored today (Fig. 1). These include: Brandy Cove (#17 – a brackish site influenced by the Saint Croix River), Lime Kiln Bay (#3 – Letang estuary where a number of aquaculture sites are located), Deadmans Harbour (#15 – an open bay with offshore influence), and the Wolves Islands (#16 – an offshore indicator site). An extra sampling site (#25) was added in mid-Passamaquoddy Bay in 1999 following observations of brick-red patches of water.

Sampling was conducted during the 2 yr, 2001 and 2002, aboard the research vessel, PANDALUS III. Weekly samples were collected from May 1 to October 2 in 2001 and from May 16 to September 24 in 2002. Biweekly sampling was conducted in the month of October and monthly during all other months during both years.

A Seabird Model 25 was used to collect vertical profiles of temperature, salinity and fluorescence at each site. Salinity results are reported on the Practical Salinity Scale (PSU) (1980).

Phytoplankton, small zooplankton, microbial plankton and nutrient samples were collected at the surface by bucket from all five stations and at depths of 10 m, 25 m, and 50 m with a Niskin bottle at station #16. During the summer months a 10 m vertical plankton haul was made with a 20-µm mesh net, 0.3 m in diameter. A subsample was preserved with formalin:acetic acid (1:1 by volume) for further identification and examination by scanning electron microscope (SEM). In addition, a live sample was taken for identification and culture of selected organisms. Live phytoplankton samples were immediately iced for the return trip to the laboratory.

Samples collected for ammonia, nitrate, nitrite, phosphate and silicate content were frozen immediately and later analysed at the Bedford Institute of Oceanography using a Technicon Autoanalyzer II as described by Strain and Clement (1996).

Sample information was recorded including date, location, depth; and an independent identification number was assigned at the time of collection. Information was entered, maintained and accessed in a database. Individual net haul results and individual depth profiles from the Seabird profiler were stored separately.

Water samples (250 mL) were immediately preserved with 5 mL formalin:acetic acid. Later, 50-mL subsamples were settled in Zeiss counting chambers for 16 h. All phytoplankton greater than 5 µm were identified and enumerated (as cells•L^{-1}) using a Nikon inverted microscope. Further identification was done using either a JEOL JSM-5600 SEM or a Hitachi S-2400 SEM. Sample preparation for SEM was as follows: samples were rinsed with 250 mL distilled water (prefiltered 1.3 µm) onto a 3-µm (Poretics) polycarbonate filter using a 25-mm Millipore vacuum filtration apparatus. Diatoms were cleaned with the permanganate oxidation method (Hasle and Fryxell 1970) while samples with thin walls and/or unarmoured dinoflagellates were dehydrated in a series of ethanol solutions (20, 50, 70, 85, 95%) prepared with distilled water and absolute ethanol for a minimum of 10 min at each step, finishing with three rinses of 100% ethanol. For the final drying step, three changes of hexamethyldisilazane (HMDS) were used (Bray et al. 1993; Kaczmarska et al. 2000), a minimum of 10 min each, allowing the last rinse to evaporate slowly at room temperature. Filters were mounted on stubs, and then coated with gold-palladium in a Hummer sputtering system.

For species identification purposes, the *P. delicatissima* group included species of both *P. pseudodelicatissima* and *P. delicatissima*; the *P. seriata* group included the species *P. multiseries*, *P. pungens* and *P. seriata*. *Alexandrium fundyense* cells included all its life cycle stages, and if different

stages in its life cycle were observed, they were recorded separately as well. Its life cycle stages include: duplets or triplets (asexually dividing cells) that are observed early in the bloom, fusing (sexual division where two cells fuse together), planozygotes (large cells formed from the fusing cells) and cysts or resting spores.

Microbial plankton were placed into cryogenic vials, preserved in paraformaldehyde (1%) and stored at -80°C. Flow cytometric analyses of phytoplankton and bacterioplankton were performed using standard protocols (Li and Dickie 2001). Phytoplankton were detected by autofluorescence from cellular chlorophyll. Cells of equivalent spherical diameter (ESD) less than 2 μm were classified as picophytoplankton. In this size category, some cells also emitted orange fluorescence - indicating presence of phycoerythrin: these cells were designated as *Synechococcus* (cyanobacteria). Cells of ESD greater than 2 μm but less than 20 μm were classified as nanophytoplankton. Additionally, a distinction was made between small nanophytoplankton (less than 10 μm) and large nanophytoplankton (greater than 10 μm).

Bacterioplankton were detected by green fluorescence after staining with the DNA-binding fluorochrome SYBR Green 1.

RESULTS

There were a total of 31 and 28 sample days in 2001 and 2002, respectively.

PHYTOPLANKTON (including small zooplankton)

Numbers of samples analyzed for phytoplankton density were 236 in 2001 and 202 in 2002. During the 2 yr, 171 species of phytoplankton and smaller zooplankton were identified in addition to a listing of groups where species were not identified such as armoured dinoflagellates, unarmoured dinoflagellates, centric and pennate diatoms, ciliates, copepods and tintinnids (Appendix 1). Identification and enumeration results for phytoplankton are listed in Appendix 2. Organisms that were observed at concentrations greater than 10,000 cells•L^{-1} during the 2 yr are listed in alphabetical order in Table 1.

Table 1. Organisms detected at levels greater than 10,000 cells•L^{-1}. * levels greater than 100,000 cells•L^{-1}, ** greater than 1,000,000 cells•L^{-1}

2001

Alexandrium fundyense
Asterionellopsis glacialis *
Ceratium lineatum
Chaetoceros contortus
Chaetoceros debilis
Chaetoceros spp. (Hyalochaete)
Cylindrotheca closterium
Dactyliosolen fragilissimus
Dictyocha speculum
Ditylum brightwellii
*Guinardia delicatula**
*Heterocapsa triquetra**
*Leptocylindrus danicus**
Leptocylindrus minimus
Mesodinium rubrum
Phaeocystis pouchetii
Pseudo-nitzschia delicatissima group*
Pseudo-nitzschia seriata group
Rhizosolenia spp.
Scrippsiella trochoidea
*Skeletonema costatum**
*Thalassiosira nordenskioeldii**
Thalassiosira sp. (tiny)
Thalassiosira spp.*

2002

*Alexandrium fundyense**
Armoured dinoflagellate
Asterionellopsis glacialis
Cerataulina pelagica
*Chaetoceros debilis**
Chaetoceros furcellatus
*Chaetoceros socialis**
Chaetoceros spp. (Hyalochaete)*
Cylindrotheca closterium
*Dactyliosolen fragilissimus**
Detonula confervacea
Dictyocha speculum
Dinobryon spp.
Ditylum brightwellii
Ebria tripartita
*Eucampia zodiacus**
Eutreptiella sp.
Guinardia delicatula
Gyrodinium aureolum
Heterocapsa triquetra

*Leptocylindrus danicus***
*Leptocylindrus minimus**
Mesodinium rubrum
Pseudo-nitzschia delicatissima group
Pseudo-nitzschia seriata group*
Scrippsiella sp.
Skeletonema costatum
Thalassiosira gravida
*Thalassiosira nordenskioeldii**
Thalassiosira spp.*
Tintinnida
Unarmoured dinoflagellate

Species observed at concentrations ≥10 000 cells•L^{-1} during both 2001 and 2002 were: *Alexandrium fundyense*, *Asterionellopsis glacialis*, *Chaetoceros debilis*, *Chaetoceros* spp., *Cylindrotheca closterium*, *Dactyliosolen fragilissimus*, *Dictyocha speculum*, *Ditylum brightwellii*, *Guinardia delicatula*, *Heterocapsa triquetra*, *Leptocylindrus danicus*, *Leptocylindrus minimus*, *Mesodinium rubrum*, *Pseudo-nitzschia delicatissima* group, *Pseudo-nitzschia seriata* group, *Skeletonema costatum*, *Thalassiosira nordenskioeldii* and *Thalassiosira* spp. Note that *M. rubrum* was also observed at concentrations high enough to discolour the water at locations not included in our five sampling sites. There were seven species that occurred at concentrations greater than 100,000 cells•L^{-1} in 2001. In 2002, there were 11 species observed at concentrations greater than 100,000 cells•L^{-1} and one with numbers greater than one million – *L. danicus* (1.19×10^6 cells•L^{-1} on Sept. 3). These numbers from 2002 were the highest observed since sampling was initiated in 1988 (Table 2). Additionally, the highest concentrations of *Chaetoceros* spp., *C. socialis*, *Thalassiosira* spp. and *T. nordenskioeldii* were found at depths in some instances.

The intensity of the *A. fundyense* blooms (the PSP toxin producer) was observed at concentrations greater than 10,000 cells•L^{-1} during the 4 yr 1993-96 but during 1997 and 1998, the highest concentrations observed were 8200 and 6720 cells•L^{-1}. These low concentrations persisted through 1999 and 2000 with 3.2×10^3 and 2.5×10^3 cells•L^{-1}, respectively. Although *A. fundyense* cells are observed annually, the intensity of the bloom varies greatly from year to year. During most years, blooms are initiated in late May to early June with highest numbers observed in mid-July. In 2001, cells were first observed at Brandy Cove, mid-Passamaquoddy Bay, Deadmans Harbour, and Lime Kiln Bay on May 1 and also at the Wolves Islands on May 7. Highest concentrations (6.8×10^4 cells•L^{-1}) were detected on July 17 at Deadmans Harbour (Fig. 2). Where sampling was conducted at discrete depths at the Wolves, few cells were detected at depth as is consistent with other *A. fundyense* studies in the Bay of Fundy (Martin et al. 2005). Cells persisted in the region throughout the fall and into mid-October of 2001. During 2002, *A. fundyense* was detected on February 12 at the Wolves Islands and numbers began to increase in mid-April with highest concentrations (1.52×10^5 cells•L^{-1}) observed on July 23 at Deadmans Harbour (Fig. 2). Cells persisted through late September. Figure 3 shows *A. fundyense* concentrations from the four continuously monitored stations since 1988 with highest numbers observed in 1989, a decreasing trend from 1996-2000 and cells beginning to be more abundant again in 2001-02.

Table 2. Number of species ≥10,000 and 100,000 cells•L^{-1} (1988-2002).

Year	greater than 10,000	greater than 100,000
1988	11	1
1989	17	6
1990	19	6
1991	16	3
1991	16	3
1992	9	1
1993	12	3
1994	15	4
1995	13	3
1996	12	2
1997	12	3
1998	11	3
1999	12	3
2000	25	7
2001	24	7
2002	33	11

Although there are a number of *Pseudo-nitzschia* species in the Bay of Fundy (Kaczmarska et al. 2005), the *Pseudo-nitzschia* species have been sorted into 2 groups because of difficulty in differentiating them with the light microscope. The *P. delicatissima* group refers to a number of different species that are difficult to differentiate without the use of an electron microscope because of their small size in width (1.5-2.0 µm). They include *P. pseudodelicatissima* and *P. delicatissima*. The *P. seriata* group includes *P. fraudulenta*, *P. multiseries*, *P. pungens*, *P. seriata* and *P. subpacifica*.

Table 3. Greatest number of species observed on any one sampling day during each year (1988-2002). * Only Lime Kiln Bay was sampled in 1987. **Passamaquoddy Bay sampling site was added in 1999.

Year	Date of maximum species count	Maximum species count from all 5 stations**	Maximum species count from 4 stations
1987*	1987-06-30		40
1988	1988-09-21		65
1989	1989-06-28		79
1990	1990-09-04		72
1991	1991-07-09		59
1992	1992-06-24		53
1993	1993-08-10		61
1994	1994-08-30		66
1995	1995-09-20		65
1996	1996-06-25		63
1997	1997-10-01		68
1998	1998-09-08		69
1999	1999-06-15	78	74
2000	2000-08-28	87	84
2001	2001-06-26	95	94
2002	2002-08-27	90	88

The highest numbers of species observed on any one sample day during each year are shown in Table 3. The high number of species also contributed to the degree of difficulty in analyzing samples and increased analysis time per sample.

PICOPLANKTON

In general, a similar pattern of seasonal variation was observed in the picophytoplankton (Fig. 4) - including the cyanobacterium *Synechococcus* (Fig. 5), the small nanophytoplankton (Fig. 6), the large nanophytoplankton (Fig. 7), and the heterotrophic bacterioplankton (Fig. 8). The abundance of cells in each of these groups increased from spring to summer. With some exceptions, maximum values were reached in mid-September near the autumn equinox. The order of magnitude in abundance (cells•mL^{-1}) were: 10^6 for bacterioplankton, 10^4 for picophytoplankton and *Synechococcus*, 10^3 for small nanophytoplankton and 10^2 for large nanophytoplankton. For all cell groups, the abundances were higher at Brandy Cove and mid-Passamaquoddy Bay than at the other 3 stations: Deadmans Harbour, Lime Kiln Bay and the Wolves Islands.

At Lime Kiln Bay, there was no systematic variation of cell abundance with depth (Fig. 9), suggesting a well-mixed water column to 15 m. On the other hand, at the Wolves Islands, cell abundances were systematically lower at depths greater than 10 m (Fig. 9), suggesting water stratification (to varying degrees) through the period of observation.

The seasonal dynamics of phytoplankton and bacterioplankton are well-described for the Bedford Basin, Nova Scotia (Li and Dickie, 2001). From the present data, it appears that the phytoplankton in the southwest New Brunswick part of the Bay of Fundy undergo a similar seasonal cycle. The increase of phytoplankton (including *Synechococcus*) from spring to the autumn equinox is parallel between Bedford Basin and Brandy Cove (Fig. 10). On the other hand, bacteria are less abundant in the Bay of Fundy than in the highly eutrophic Bedford Basin (Fig. 10).

SALINITY

Salinity results for the 2 yr period are presented in Appendix 3. Lowest values were

measured at the surface at Brandy Cove (24.67 psu) on April 16, 2002. Highest salinity values were measured at #16, the Wolves with 33.19 psu near the bottom on October 9, 2002. Salinity values ranged from 26.85-32.91 in 2001 and 24.67-33.19 psu in 2002.

TEMPERATURE

Appendix 3 shows surface water temperature results for Lime Kiln Bay (#3), Deadmans Harbour (#15), the Wolves (#16), Brandy Cove (#17) and mid Passamaquoddy Bay (#25) and also at depths for the Wolves from 2001-02. Temperatures ranged from 2.5 (Deadmans Harbour, February 13) to 15.1°C (mid-Passamaquoddy Bay, September 18) in 2001 and 0.8 (Brandy Cove, February 12) to 16.2°C (mid-Passamaquoddy Bay, August 20) in 2002. Figure 11 shows temperature results from the Wolves Islands and Brandy Cove between 1988-2002.

NUTRIENT ANALYSES

Nutrient results are located in Appendix 3. Silicate values ranged from 0.02 (Station #25 - mid Passamaquoddy Bay, July 10, 2001) to 14.37 µM (Station #17 - Brandy Cove, March 12, 2002). Phosphate ranged from 0.26 (Station #16- the Wolves, July 9, 2002) to 1.56 µM (Station #16- the Wolves, September 24, 2001. Ammonia levels ranged from 0.46 (Station #16 – the Wolves, August 20, 2002) to 6.61 µM (Station #17- Brandy Cove, July 24, 2001). Nitrate + nitrite ranged from 0.02 (Station #16 - the Wolves, June 19, 2001) to 10.81 (Station #15 – Deadmans Harbour, December 5, 2002). Nitrite values were between 0.04 (Station #15 – Deadmans Harbour, July 17, 2001) to 0.87 (Station #17 – Brandy Cove, October 9, 2002).

Nitrate, ammonia and silicate values for Lime Kiln Bay and the Wolves are plotted on Figures 12-14.

Maximum winter nitrate concentrations in the surface layer ($z = 0$ m) for the 2 yr exhibited a very small range in the region, from 10.25 µM at Lime Kiln to 10.81 µM at Deadmans Harbour. The minimum summer concentrations were also reasonably uniform, varying from 0.02 µM at The Wolves to 1.05 µM at Lime Kiln, but there are some differences in the time periods over which nitrate levels stayed very low. Figure 12 show plots of nitrate levels at Lime Kiln Bay and the Wolves. The lowest values at Lime Kiln Bay never persisted for more than a single sample: these low values may have depended on the stage of the tide at the time of sampling. At the Wolves, very low values persisted for longer periods, especially in the summer of 2001. The other stations exhibited similar summer behaviour to that seen at the Wolves, although the minimum concentrations were slightly higher at Brandy Cove than at the Wolves. Figure 12 also shows interannual differences in these trends. Data from samples collected at depth at the Wolves indicate that summer concentrations increase with increasing depth, with nitrate concentrations almost always greater than 5 µM at 50 m, showing that stratification is well established at this site further offshore in the summer.

Ammonia concentrations (Fig. 13) are not available for as complete a time series as the other nutrients, but the data available did not show a clear seasonal pattern. In general, surface concentrations were lower at the Wolves, Deadmans Harbour and mid-Passamaquoddy Bay (1-2 µM) than elsewhere, with higher values usually found in Lime Kiln Bay and Brandy Cove (not shown). Highest ammonia values were detected at Brandy Cove on July 21, 2001. The rapid fluctuations in ammonia concentrations in Lime Kiln Bay may indicate the importance of local ammonia sources and the stage of the tide in determining the ambient concentrations.

Nitrite concentrations (not shown) were low, and exhibited similar patterns throughout the region. Once again, concentrations were lower in summer than in winter, but the differences were small: typical summer levels were ~0.1 µM; typical winter levels ~ 0.25 µM. Higher concentrations (up to 0.53 µM at Deadmans Harbour and 0.87 µM at Brandy Cove) were seen at all stations in the fall of 2002 than at any other period during these 2 yr.

The seasonal trends in phosphate were similar to those for nitrate. Winter maxima varied from 1.17 µM at Brandy Cove to 1.56 µM at Deadmans Harbour; summer minima from 0.26 at Deadmans Harbour to 0.46 µM at Lime Kiln Bay. However, summer concentrations of phosphate do not become close to zero as they do for nitrate.

Summer silicate minima (0.02 µM at mid-Passamaquoddy Bay to 0.85 µM at Brandy Cove), like those of nitrate, were also very low, but not as uniform. Winter maxima for silicate varied over a wide range (Fig. 14). Maximum values at Deadmans Harbour, the Wolves and Lime Kiln Bay were 9.77, 9.77 and 10.59 µM, respectively, and values of 10.55 and 14.37 µM were measured at Passamaquoddy and

Brandy Cove. These higher values may be due to local river inputs. Dalziel et al. (1998) reported very variable silicate river concentrations for local rivers: they measured values as high as 10 µM in the St. Croix and Magaguadavic Rivers, and as high as 39 µM in the Digdeguash River.

DISCUSSION

In general terms, the nutrient results showed typical seasonal cycles for inshore temperate waters. Nitrate, phosphate and silicate were highest in the winter, were depleted by the spring phytoplankton blooms, and then replenished by vertical mixing that accompanied the breakdown of stratification in the late fall. However, there are some features of these distributions that are specific to the Bay of Fundy, and there are differences between the different monitoring stations.

The majority of phytoplankton and smaller zooplankton occur in the Bay of Fundy without causing adverse effects. Prior to 1988, the species of major concern was *A. fundyense*, which is responsible for producing PSP toxins which can result in unsafe levels of toxins in shellfish. It was a well established fact that shellfish harvesting areas would be closed to harvesting at some time during the year – generally during the summer months (Prakash et al. 1971). Shellfish are monitored for toxins at regular intervals by the CFIA (through a program initiated in 1944 that is now one of the longest continuous datasets of its kind in the world). Records indicate that shellfish in the Bay of Fundy become toxic every year. This is not surprising as the presence of very few cells in a plankton net haul or as few as 200 cells•L^{-1} can result in PSP toxins at a detectable level in shellfish from an adjacent area. Unfortunately, in the early stages of setting up the monitoring program, the wild blue mussel (*Mytilus edulis*) industry was closed to harvesting in 1944 and has never reopened. Data from this monitoring program, as well as toxin uptake and depuration studies, indicate that during a good part of the year it would be possible to harvest mussels that would be safe for consumption and below the regulatory limit for harvesting. In recent years, a carefully regulated cultured blue mussel industry has been established through the Integrated Multi-Trophic Aquaculture (IMTA) program (Haya et al. 2004; Lander et al. 2012). Certain regions, such as Passamaquoddy Bay are potential sites for mussel culture as the numbers of *A. fundyense* tend to be lower than in other areas more exposed to offshore waters and higher concentrations of *A. fundyense* cells.

Fish kills were experienced in the late 1970s as a result of PSP toxins that had gone through the food chain and ultimately killed hundreds of tonnes of herring held captive in herring weirs. Also, in the mid-1980s, PSP toxins were detected in mackerel and implicated in whale mortalities. However, results from the monitoring program indicate that the mid to late 1990s have been years with low concentrations of *A. fundyense*, although in 2001-02 the numbers tend to reflect an increasing trend again. Results from the monitoring program indicate that numbers since 1987 have been considerably lower than the high concentrations observed in the late 1970s and in 1980 when concentrations as high as one million cells•L^{-1} were observed (Martin and White 1988). A number of parameters such as environmental data, phytoplankton community structure, and trend analyses are being examined to further understand this pattern.

Red tides caused by the organism *M. rubrum* were observed in Passamaquoddy Bay during late summer in 2001 and 2002. During these red-water events, brick-red patches of cells were observed drifting through some salmon farms. *M. rubrum* concentrations observed in water samples collected from waters with discolouration during the two years exceeded one million cells•L^{-1} and resulted in the salmon aquaculture industry being impacted by algal blooms again in northern Passamaquoddy Bay when low level mortalities were observed (Martin et al. 2007). Although red tides of *M. rubrum* had been observed in this area in previous years, the number of aquaculture operations in the area was minimal; however, numbers of sites increased in the fall of 1997 as a result of sites relocating from the Lime Kiln Bay area.

Prior to the expansion of the aquaculture industry into the Passamaquoddy Bay area, it was perceived that *M. rubrum* blooms and associated red water in the area were not toxic and did not cause harm. However, as a result of the high concentrations that have drifted through the net pens in the region, it has been suggested that *M. rubrum* may contribute to stress and mortalities through secondary effects such as asphyxiation due to oxygen depletion (Martin et al. 2001), or perhaps excess oxygen (R.H. Peterson, St. Andrews, NB, pers. commun.). Affected salmon exhibited symptoms of stress associated with low or excess oxygen resulting from a combination of the red tide, decreased currents and elevated temperatures. Oceanographic processes controlling phytoplankton dynamics in the area indicate that upper Passamaquoddy Bay waters are suitable for high primary production and the generation of red

tides as a result of the area being shallow, warm, having low flushing rates and showing stratification in August (Trites and Garrett 1983; Fred Page, Biological Station, 531 Brandy Cove Road, St. Andrews, NB E5B 2L9, pers. commun.). This phenomenon of water discolouration as a result of high concentrations of *M. rubrum* has been observed in both the presence and absence of aquaculture – for example, red-water sightings prior to 2001 were observed during 1975, '77, '79, '89, '93, '98, '99, and 2000 (White et al. 1977; Jennifer Martin, Biological Station, 531 Brandy Cove Road, St. Andrews, NB E5B 2L9, pers. commun.). Although results from the Brandy Cove monitoring site indicate that *M. rubrum* occurs annually in the region, it was found that it rarely forms dense aggregates in the Saint Croix River; therefore, the mid-Passamaquoddy Bay site has been better suited to studying northern Passsamaquoddy Bay blooms.

Species that have been observed in the Bay of Fundy that have been known to cause problems elsewhere in Canada or the world include: *Dinophysis* spp. (Fernández et al. 1998), *Prorocentrum* spp. (Lawrence et al. 1998; Levasseur et al. 2003) (diarrhetic shellfish toxins); *C. convolutus*, *C. concavicornis* (Horner et al. 1990, 1997), *Gyrodinium aureolum* (Dahl and Tangen 1990, 1993; Romdhane et al. 1998) and *L. minimus* (Clément and Lembeye 1993; Albright 1993) (salmon mortalities). Although these species are known to occur each year in the Fundy region, there have not been any documented incidents of harmful effects to date.

The *P. delicatissima* group of cells, which includes *P. pseudodelicatissima* and *P. delicatissima*, has been observed at concentrations greater than 10,000 cells•L^{-1} during each year of the sampling. Records from 1987-2002 show that concentrations exceeding one million chains of cells•L^{-1} in 1988 and 1995 were associated with domoic acid production (when shellfish exceeded the regulatory limit for domoic acid). Highest concentrations observed in the 2-yr period of this study were 1.97×10^5 cells•L^{-1} at the surface at Deadmans Harbour on September 13, 2001. The next highest value observed was 1.89×10^5 cells•L^{-1} at the surface at the Wolves on September 24, 2001.

Although our measurements of the microbial plankton were limited to only 6 months in 2001, they nevertheless confirm 2 general tenets: namely that small cells are the numerical dominants in most planktonic ecosystems, and that the picoplanktonic *Synechococcus* is apparently ubiquitous outside of polar seas. The remarkable seasonal coherence of picophytoplankton variation across coastal sites in the Maritimes region (Bay of Fundy, Bedford Basin) strengthens the suggestion that water temperature may be strongly driving the annual cycle of picophytoplankton abundance (Li et al. 2006).

Unfortunately we are unable to predict phytoplankton densities from year to year. We are, however, able to provide an early warning to industry and regulatory agencies of the progress of a particular bloom. Results have shown that it is important to understand that every species is unique and information particular to one species cannot be applied to another – especially when trying to determine mitigation measures. Monitoring indicates wide interannual variation in density of populations and the necessity to monitor, at the very least weekly, in order to provide an early warning. In addition, as industries expand and new industries are introduced, environmental monitoring is essential.

In the future, should fish pens be located in areas prone to red tides, we recommend monitoring during the period when red tides are common. For this particular region, this is generally in late summer. For areas with little historical data, if water discoloration is observed, monitoring should be initiated. Identification of the causative organism is essential as every species is unique and behavioral patterns can differ according to species and geographic location. As the upper Passamaquoddy Bay is susceptible to red tides, it is recommended that if net pens are located in these waters that phytoplankton be monitored, at minimum, on a weekly basis and authorized personnel notified of water discoloration for research and advice on mitigation techniques. Results of the monitoring program indicate that phytoplankton is an essential component to be measured. Additional knowledge of the physical oceanography of the area would contribute towards better understanding events such as bloom initiation, transport and decay.

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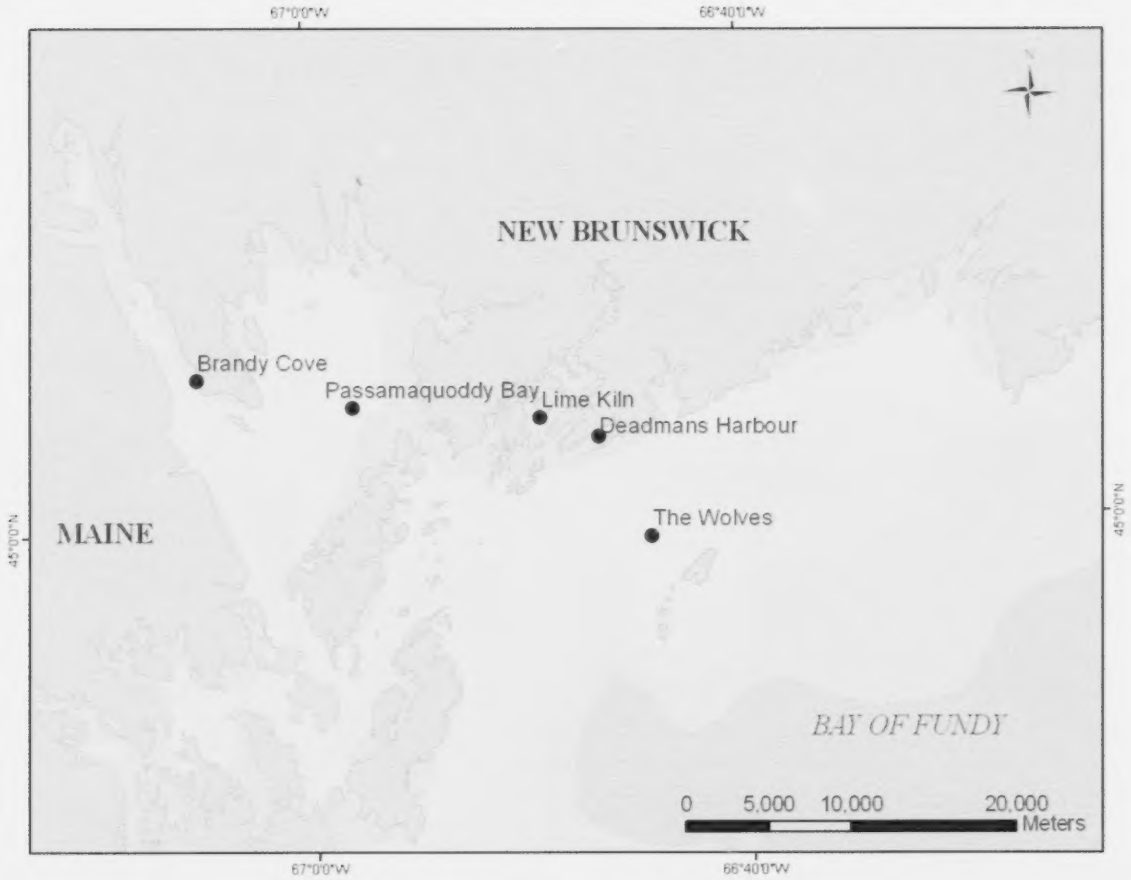


Fig. 1. Map showing the five sampling stations: Brandy Cove (#17), Passamaquoddy Bay (#25), Lime Kiln Bay (#3), Deadmans Harbour (#15) and The Wolves (#16).

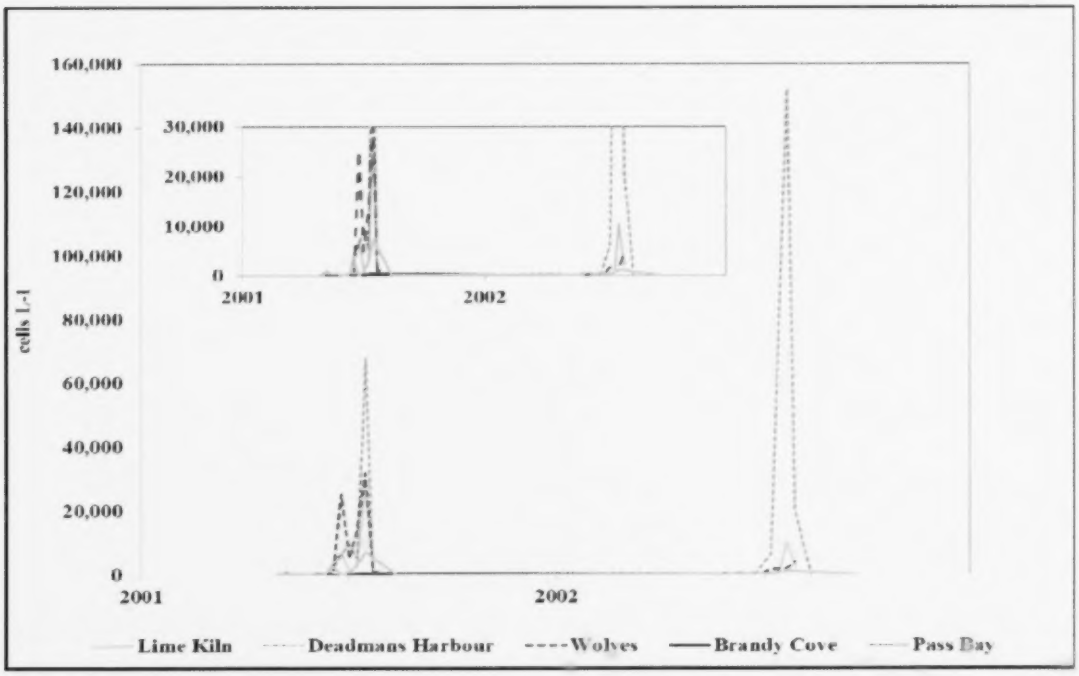


Fig. 2. *Alexandrium fundyense* concentrations (in cells•L^{-1}) from the 5 stations (2001-02). Insert map shows expanded scale.

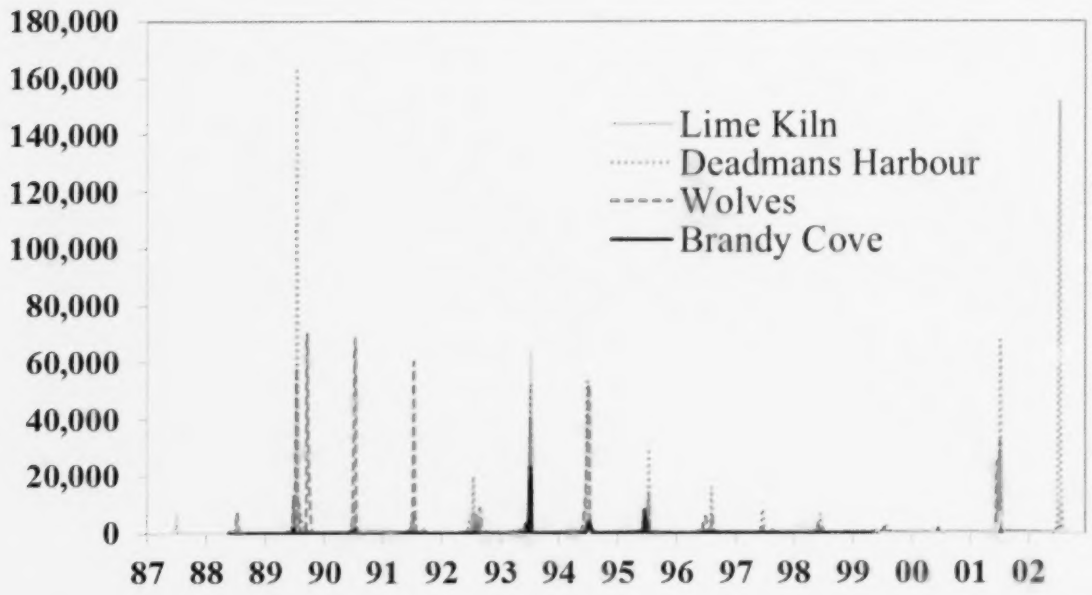


Fig. 3. *Alexandrium fundyense* concentrations (in cells•L^{-1}) from the 4 stations (1988-2002).

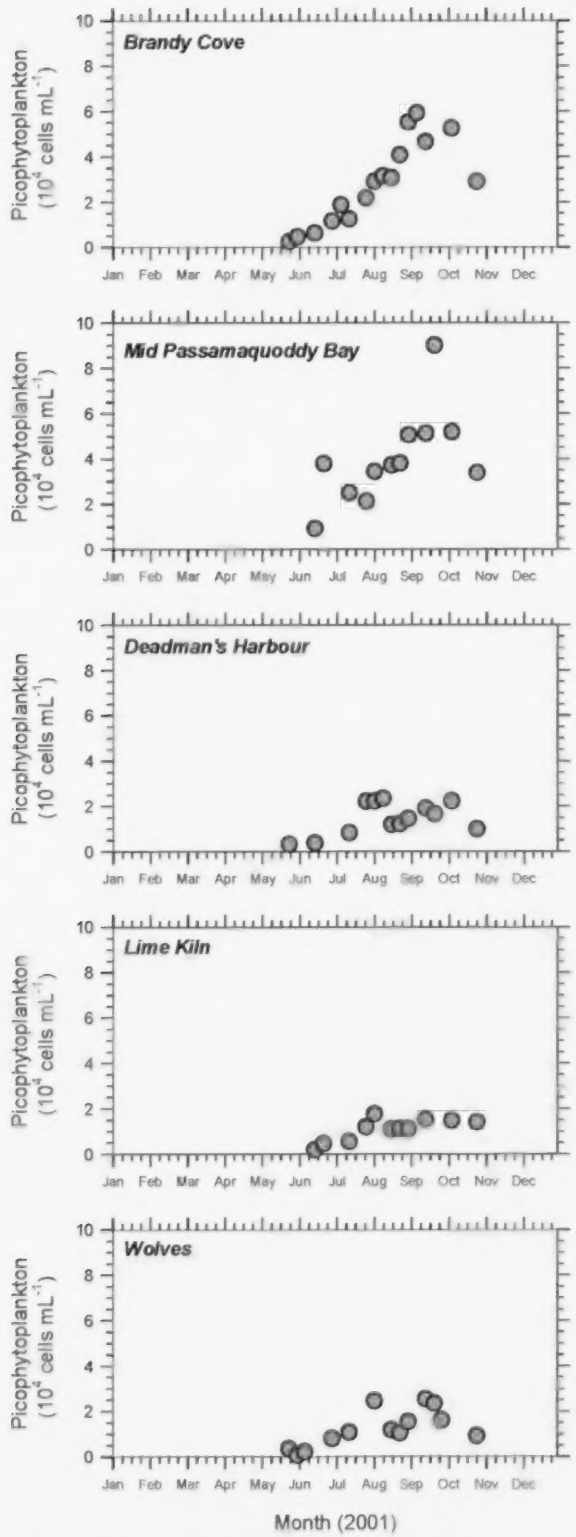


Fig. 4. Picophytoplankton (<2 μm ESD) at z = 0 m in 2001.

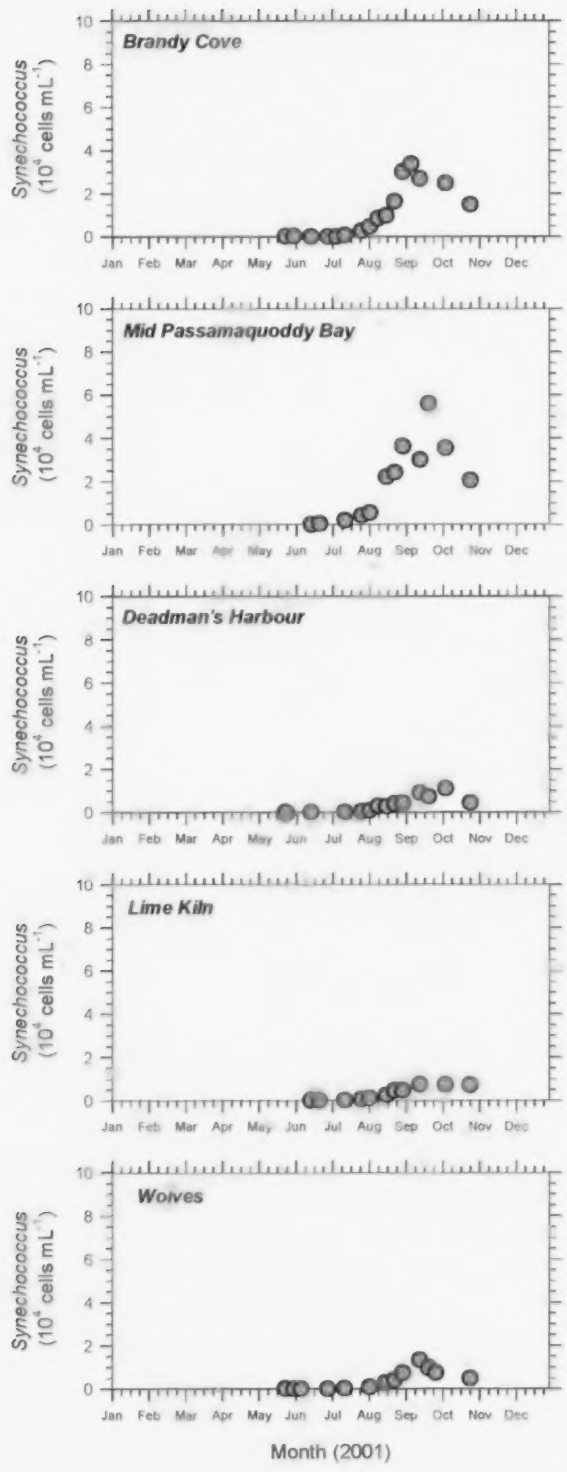


Fig. 5. *Synechococcus* at z = 0 m in 2001.

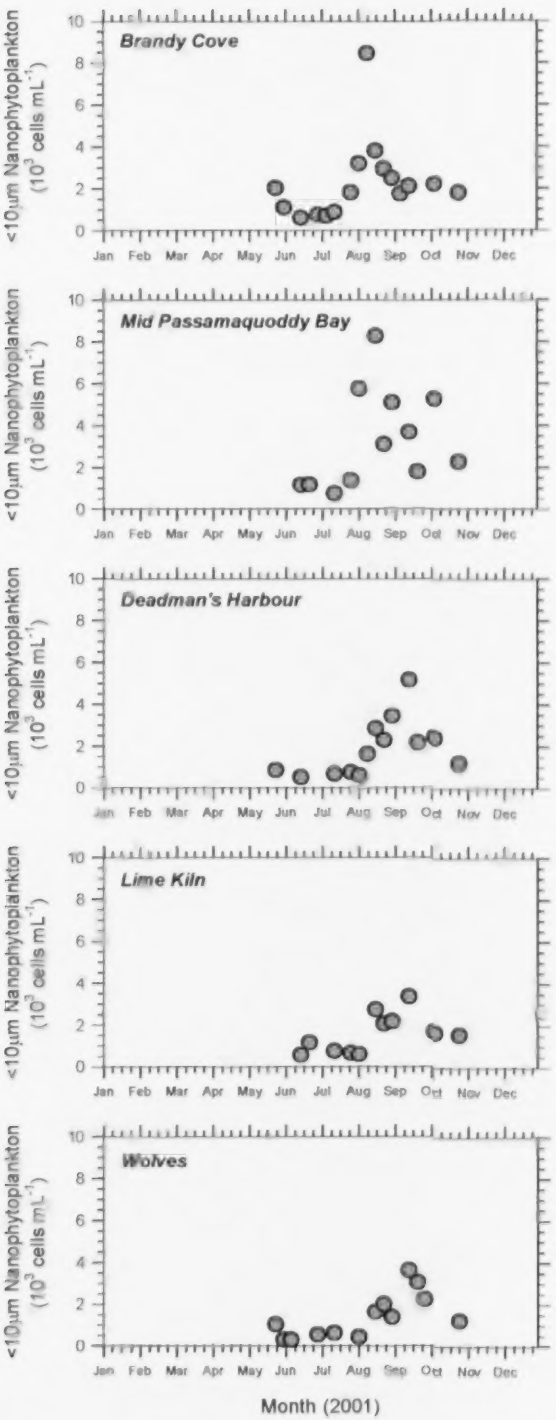


Fig. 6. Small nanophytoplankton (>2 µm, <10 µm ESD) at z = 0 m in 2001.

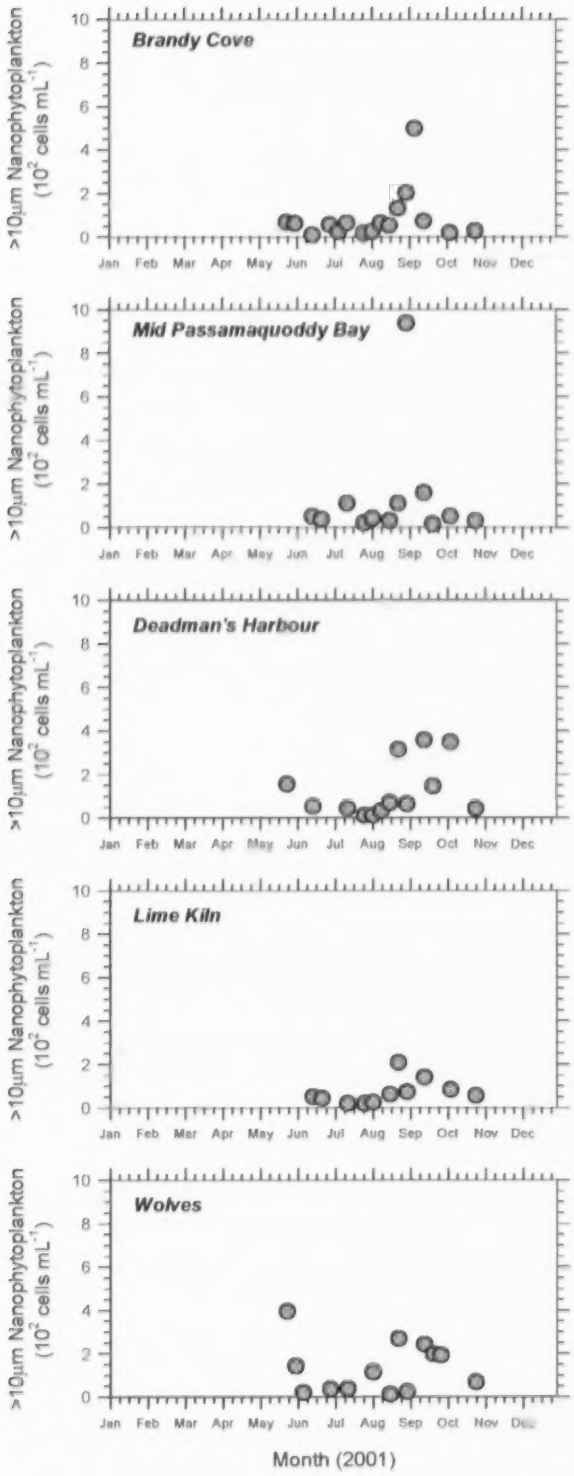


Fig. 7. Large nanophytoplankton (>10 µm, <20 µm ESD) at z = 0 m in 2001.

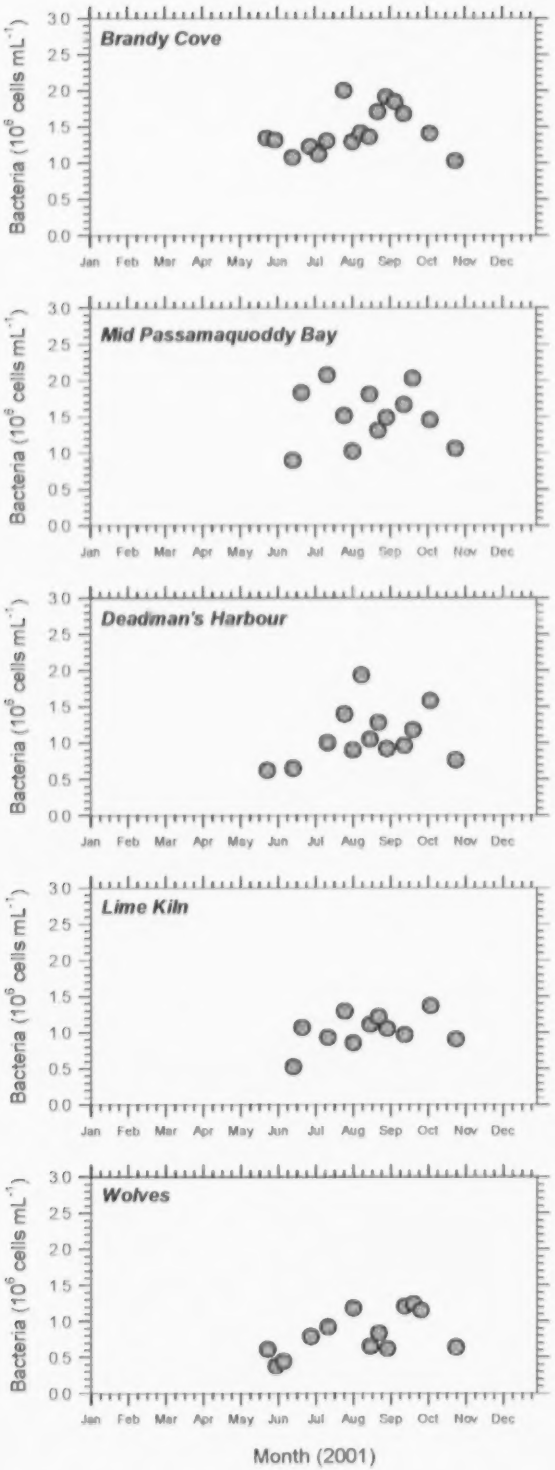
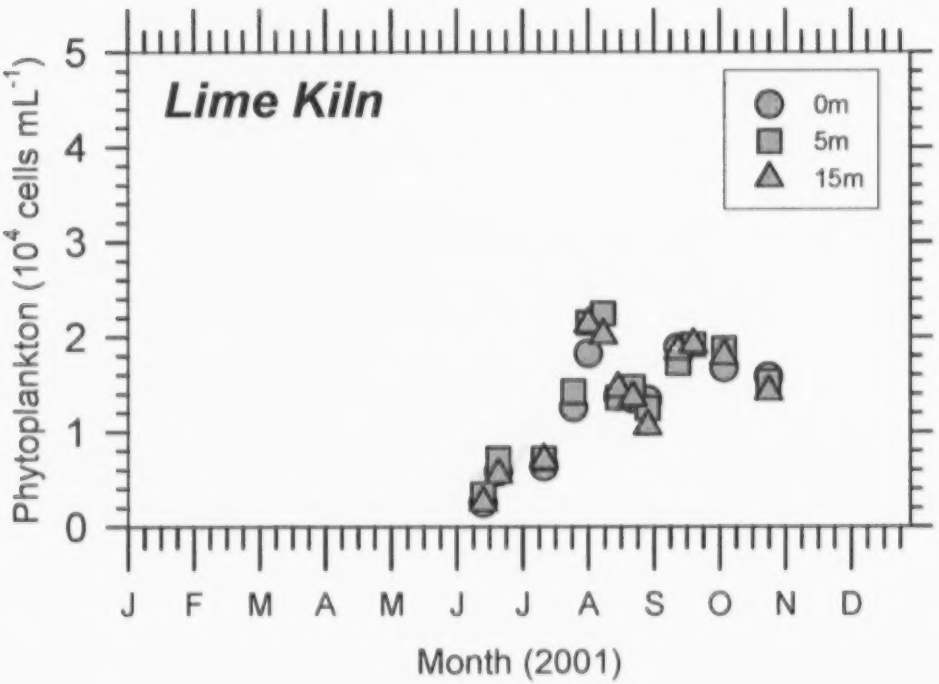
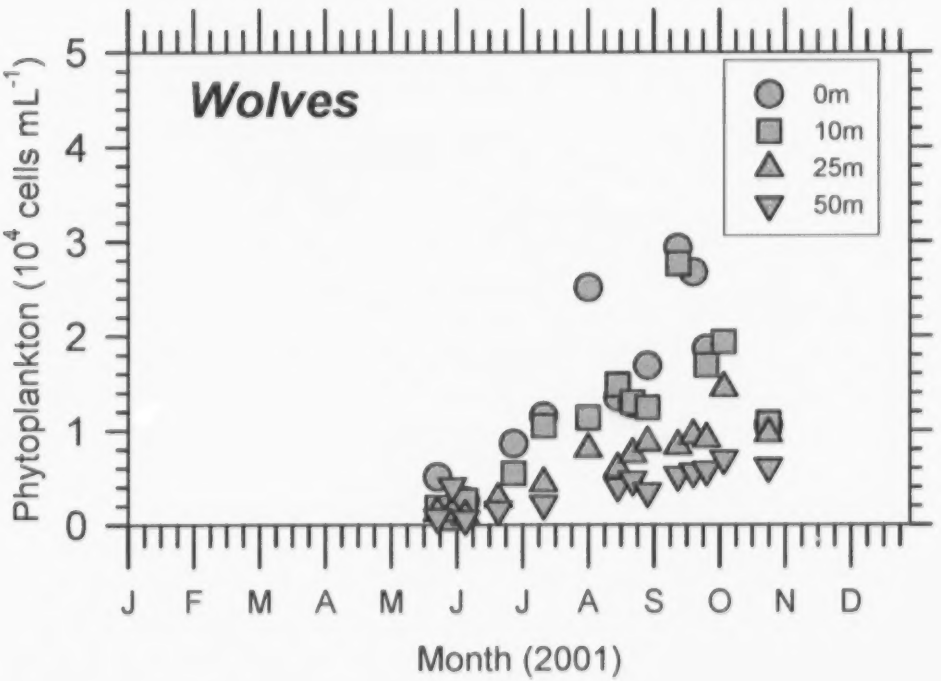


Fig. 8. Bacterioplankton at z = 0m in 2001.

Fig. 9. Depth variation of phytoplankton (<20 μm ESD) in 2001.





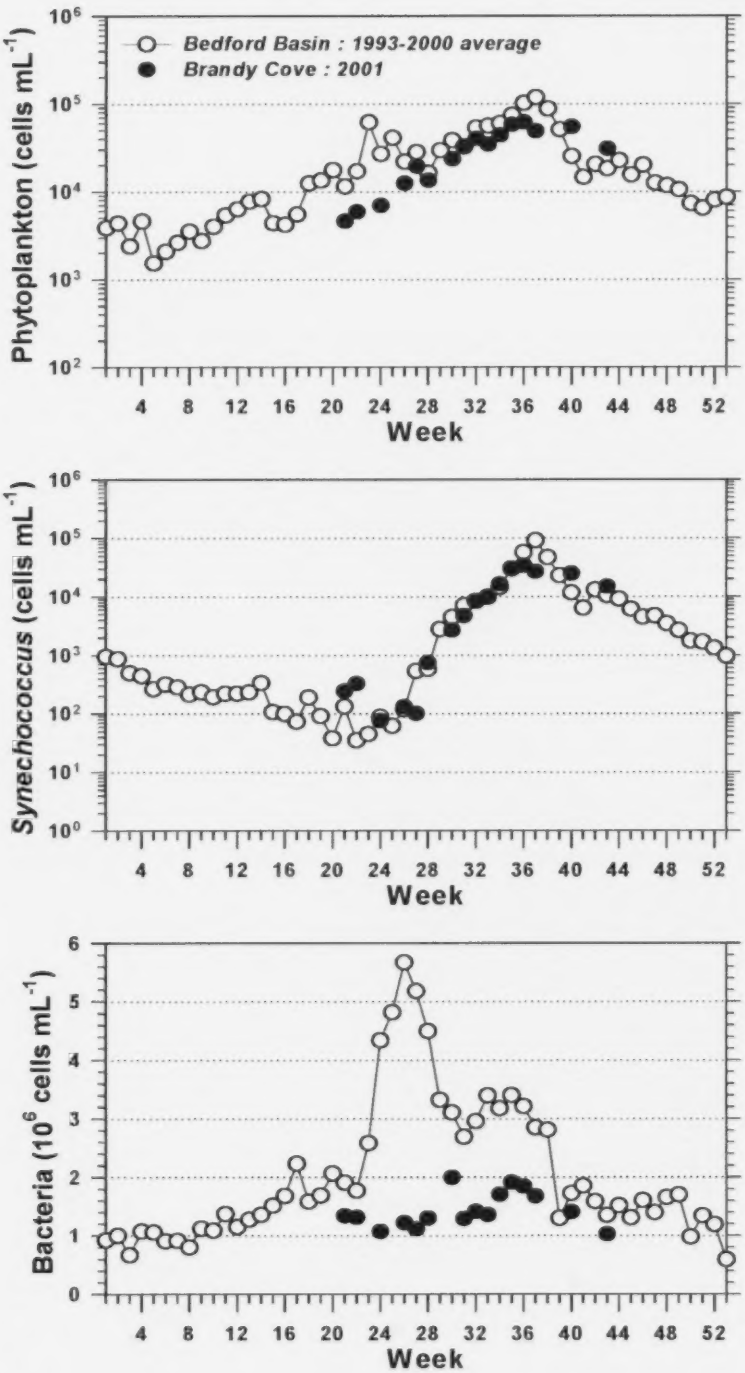


Fig. 10. Seasonal variations of phytoplankton (<20 μm ESD), *Synechococcus*, and bacterioplankton in Brandy Cove during 2001 compared to average values in Bedford Basin, Nova Scotia.

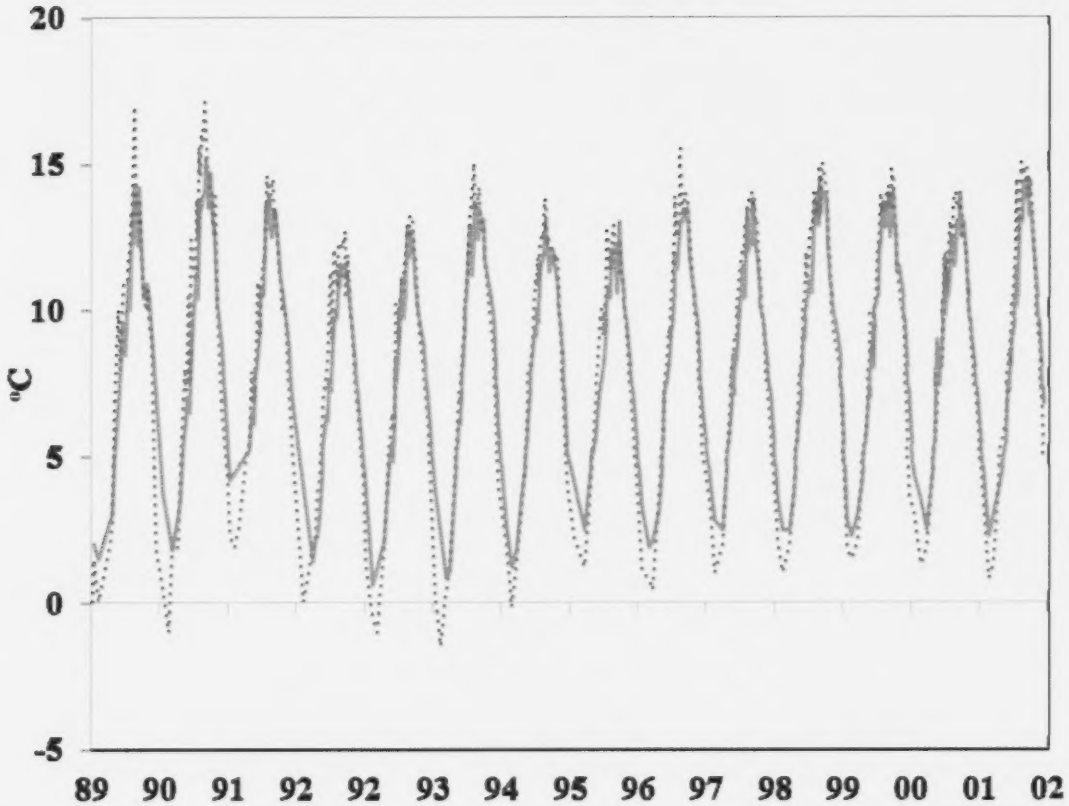
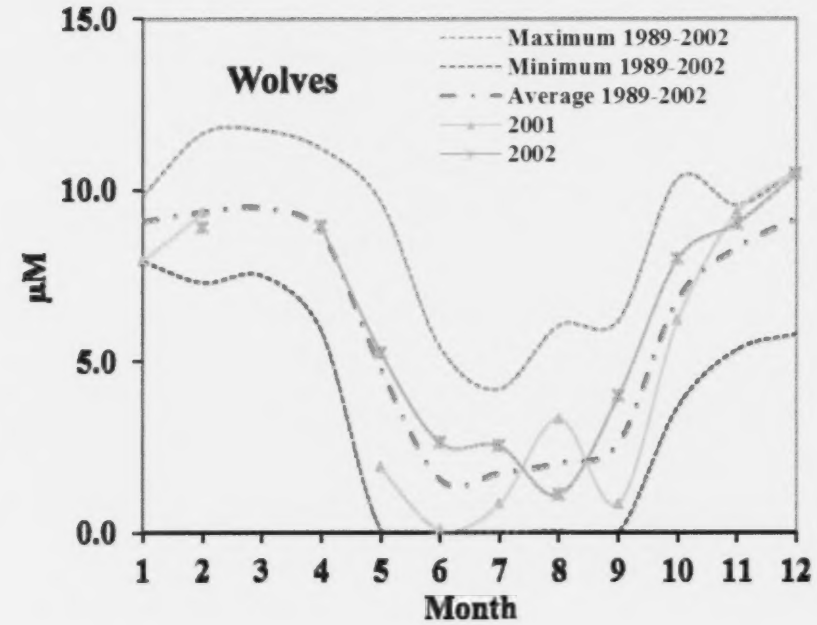


Fig. 11. Temperatures from Brandy Cove (--------) and the Wolves (————) by year (1988-2002).



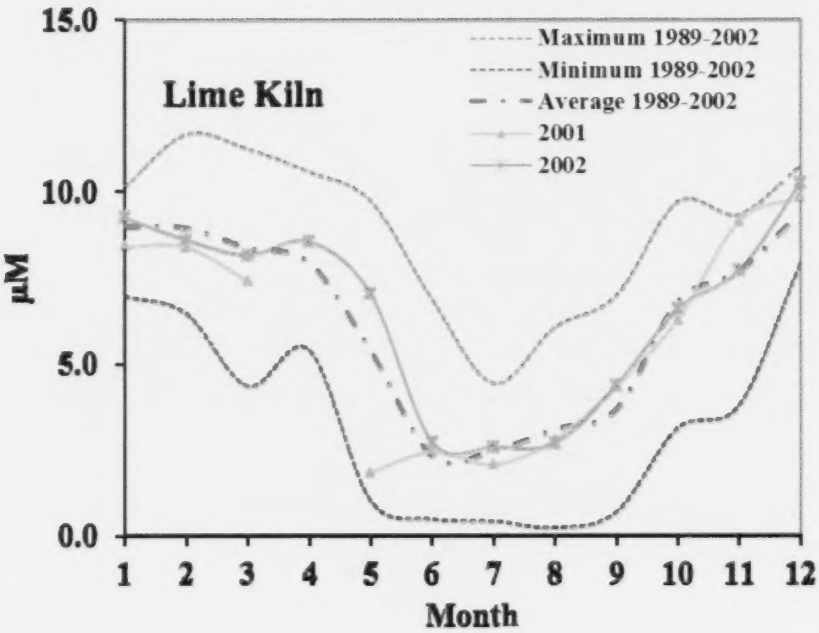


Fig. 12. Nitrate values from Lime Kiln Bay and The Wolves by month.

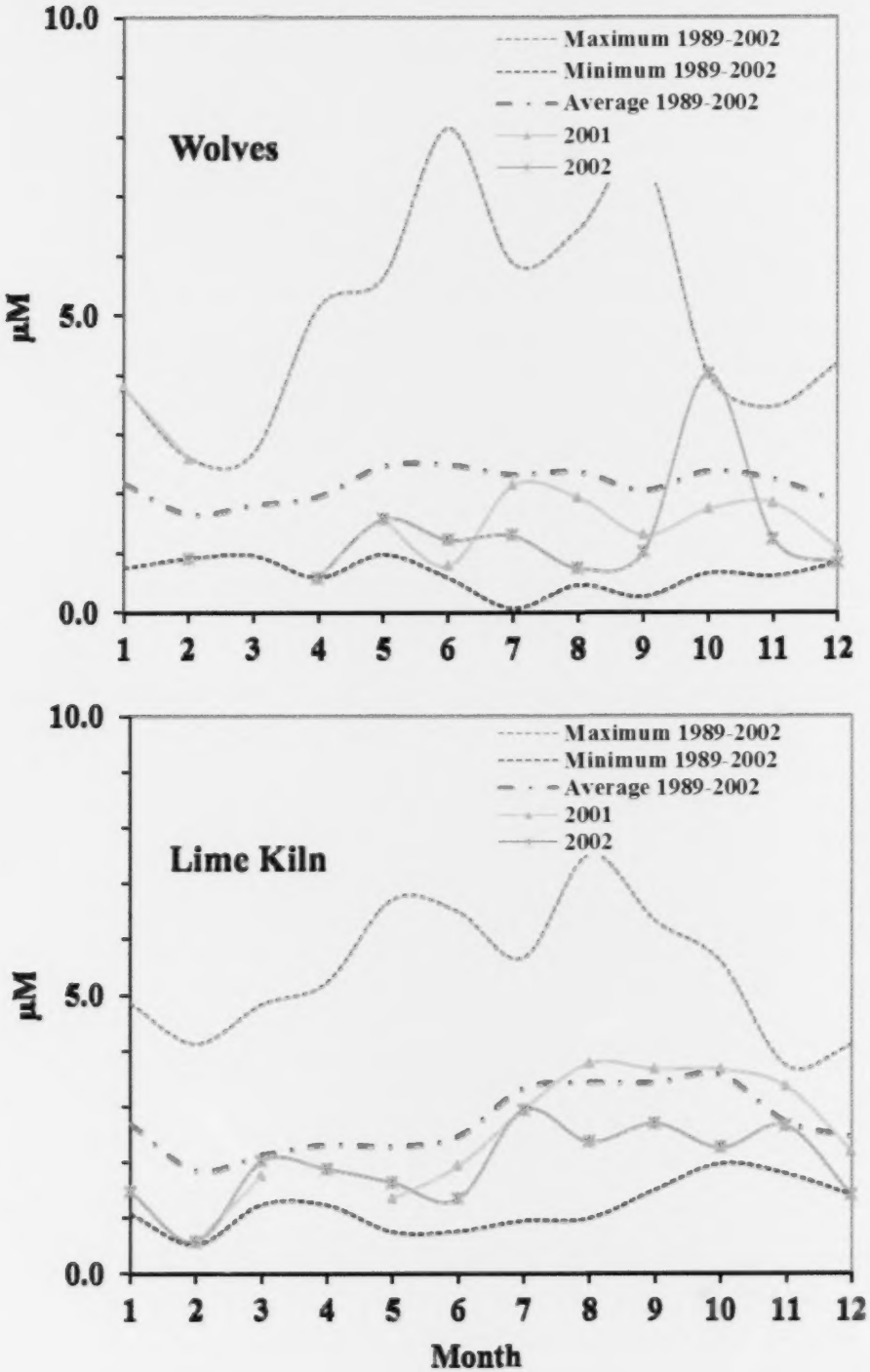


Fig. 13. Ammonia values from Lime Kiln Bay and The Wolves by month.

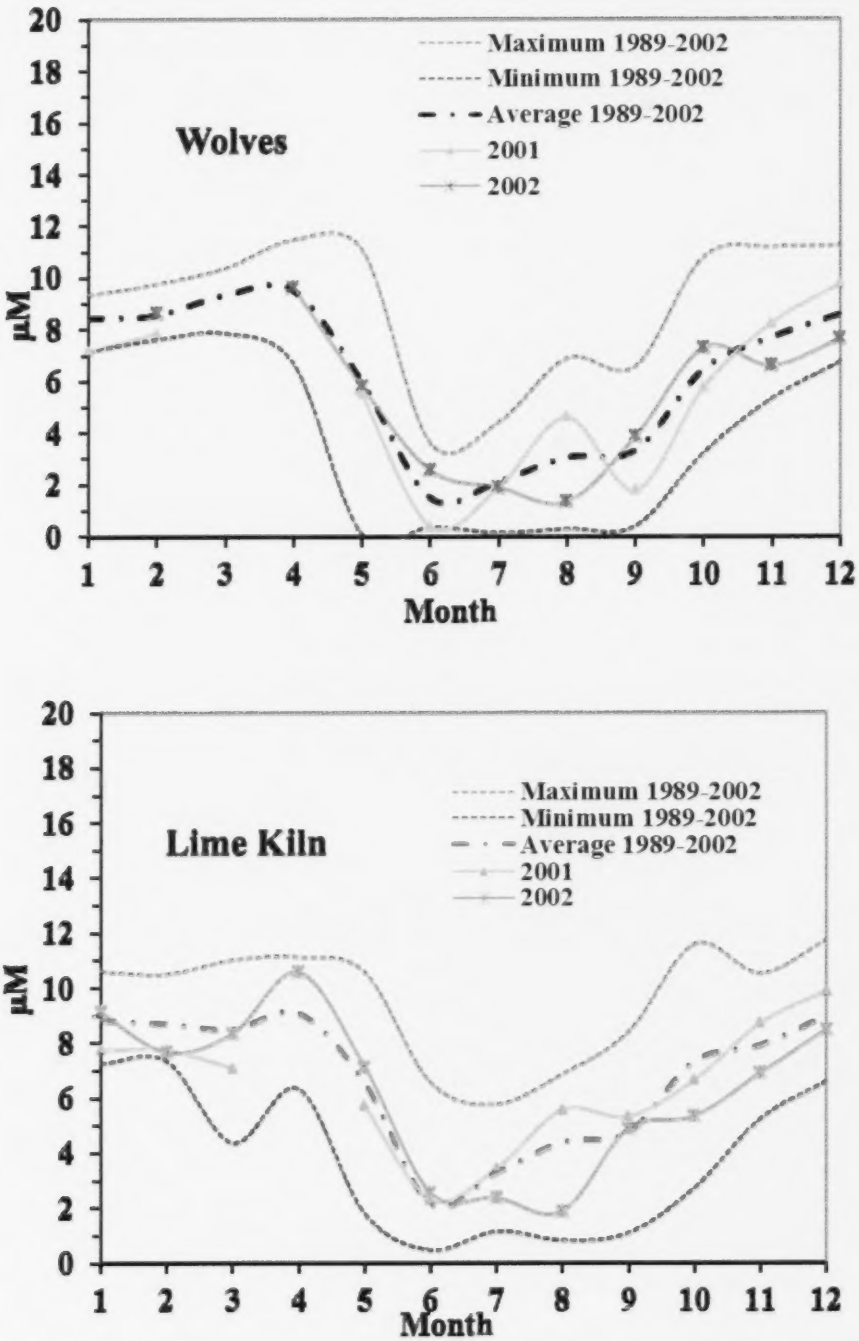


Fig. 14. Silicate values from Lime Kiln Bay and The Wolves by month.

Appendix 1. Species observed during 2001 and 2002.

Species (2001-2002)	Authority
Achnanthes sp.	Bory
Actinoptychus senarius	(Ehrenberg)
Alexandrium fundyense	Balech
Alexandrium ostenfeldii	(Paulsen) Balech & Tangen
Alexandrium pseudogonyaulax	(Biecheler) Horiguchi,Yuki & Fukuyo
Alexandrium spp.	(Biecheler) Horiguchi,Yuki & Fukuyo
Amphidinium carterae	Hurlburt
Amphidinium sphenoides	Wulff
Amylax triacantha	(Jorgensen) Sournia
Apedinella spinifera	(Throndsen) Throndsen
Armoured dinoflagellate	
Asterionellopsis glacialis	(Castracane) Round
Asteroplanus karianus	(Grunow) C. Gardner & R.M. Crawford
Attheya longicornis	Crawford & Gardner
Attheya septentrionalis	(Ostrup) Crawford
Aulacoseira ambigua	(Grunow) Simonsen
Aulacoseira granulata	(Ehrenberg) Simonsen
Bacillaria paxillifera	(O.F. Muller) Hendey
Biddulphia alternans	(J.W.Bailey) Van Heurck
Brachionus spp.	Pallas
Centrale diatom	
Corataulina pelagica	(Cleve) Hendey
Ceratium arcticum	(Ehrenberg) Cleve
Ceratium furca	(Ehrenberg) Clarapede & Lachmann
Ceratium fusus	(Ehrenberg) Dujardin
Ceratium horridum	(Ehrenberg) Vanhoffen
Ceratium kofoidii	Jorgensen
Ceratium lineatum	(Ehrenberg) Cleve
Ceratium longipes	(Bailey) Gran
Ceratium spp.	Schrank
Ceratium tripos	(O.F. Muller) Nitzsch
Chaetoceros affinis	Lauder
Chaetoceros atlanticus	Cleve
Chaetoceros borealis	Bailey
Chaetoceros constrictus	Gran
Chaetoceros contortus	Schütt
Chaetoceros convolutus	Castracane
Chaetoceros convolutus f. *trisetosa*	J.F. Brunel
Chaetoceros convolutus/concavicornis	J.F. Brunel
Chaetoceros danicus	Cleve
Chaetoceros debilis	Cleve
Chaetoceros decipiens	Cleve
Chaetoceros diadema	(Ehrenberg) Gran
Chaetoceros didymus	Ehrenberg
Chaetoceros furcellatus	Bailey
Chaetoceros ingolfianus	Ostenfeld
Chaetoceros laciniosus	Schutt
Chaetoceros lorenzianus	Grunow

Species (2001-2002)	Authority
Chaetoceros pseudobrevis	Pavillard
Chaetoceros radicans	Schutt
Chaetoceros similis	Cleve
Chaetoceros simplex	Ostenfeld
Chaetoceros socialis	Lauder
Chaetoceros sp. (filiformis)	Lauder
Chaetoceros spp.	Ehrenberg
Chaetoceros spp. (phaeoceros)	Gran
Chaetoceros subtilis	Cleve
Chaetoceros teres	Cleve
Chrysochromulina parkeae	Green & Leadbeater
Commation cryoporinum	Thomsen & Larsen
Copepoda	Milnes-Edwards
Corethron hystrix	Hensen
Coscinodiscus spp.	Ehrenberg
Cylindrotheca closterium	(Ehrenberg) Lewin & Reimann
Cylindrotheca gracilis	(Brebisson In Kutzing) Grunow
Dactyliosolen fragilissimus	(Bergon) Hasle
Detonula confervacea	(Cleve) Gran
Dictyocha fibula	Ehrenberg
Dictyocha speculum	Ehrenberg
Dinobryon spp.	Ehrenberg
Dinophysis acuminata	Claparede & Lachmann
Dinophysis acuta	Ehrenberg
Dinophysis fortii	Pavillard
Dinophysis norvegica	Claparede & Lachmann
Dinophysis pulchella	(Lebour) Balech
Dinophysis rotundata	Claparede & Lachmann
Dinophysis spp.	Ehrenberg
Dissodinium pseudolunula	Swift ex Elbrachter and Drebes
Ditylum brightwellii	(West) Grunow
Ebria tripartita	(Schumann) Lemmermann
Eucampia spp.	Ehrenberg
Eucampia zodiacus	Ehrenberg
Eutintinnus sp.	Ostenfeld
Eutreptiella spp.	A. da Cunha
Favella spp.	Jorgensen
Fragilaria spp.	Lyngbye
Gonyaulax digitale	(Pouchet) Kofoid
Gonyaulax spinifera	(Claparede & Lachmann) Diesing
Gonyaulax spp.	(Claparede & Lachmann) Diesing
Grammatophora marina	(Lyngbye) Kutzing
Grammatophora spp.	Ehrenberg
Guinardia delicatula	(Cleve) Hasle
Guinardia flaccida	(Castracane) Peragallo
Guinardia striata	(Stolterfoth) Hasle
Gyrodinium aureolum	Hulburt
Gyrodinium spp.	Kofoid & Swezy
Gyrosigma fasciola	(Ehrenberg) Griffith & Henfrey

Species (2001-2002)	Authority
Gyrosigma littorale	(W. Smith) Griffith & Henfrey
Gyrosigma tennuissimum	(W. Smith) Griffith & Henfrey
Helicostomella spp.	Jorgensen
Helicotheca tamesis	(Shrubsole) Ricard
Heterocapsa triquetra	(Ehrenberg) Stein
Laboea sp.	Lohmann
Lauderia annulata	Cleve
Leptocylindrus danicus	Cleve
Leptocylindrus mediterraneus	(H. Peragallo) Hasle
Leptocylindrus minimus	Gran
Licmophora spp.	Agardh
Litostomatea	Small & Lynn
Mediopyxis helysia	Kuhn, Hargraves & Halliger
Melosira monoliformis	(Muller) Agardh
Melosira spp.	C.A. Agardh.
Membraneis challengeri	(Grunow) Paddock
Mesodinium rubrum	(Lohmann) Hamburgen & Bruddenbock
Navicula distans	(W. Smith) Ralfs
Navicula transitans var. *derasa* f. *delicatula*	Heimdal
Neodenticula seminae	(R. Simonsen & T. Kanaya) F. Akiba & Y. Yanagisawa
Notholca spp.	Gosse
Odontella aurita	(Lyngbye) Agardh
Odontella obtusa	(Kutzing) Hustedt
Odontella regia	(M. Schultze) Ostenfeld
Odontella sinensis	(Greville) Grunow
Odontella spp.	Gray
Parafavella spp.	Kofoid & Campbell
Paralia sulcata	(Ehrenberg) Cleve
Pennate diatom	
Phaeocystis pouchetii	(Hariot) Lagerheim 1893
Pleurosigma / Gyrosigma	
Pleurosigma angulatum	(Quek) W. Smith
Pleurosigma strigosum	W. Smith
Polykrikos sp.	Butschli
Porosira glacialis	(Grunow) Jorgensen
Preperidinium meuneri	(Pavillard) Elbrachter
Proboscia alata	(Brightwell) Sundstrom
Proboscia eumorpha	Takahashi, Jordan & Priddle
Prorocentrum micans	Ehrenberg
Prorocentrum minimum	(Pavillard) Schiller
Prorocentrum sp. (small)	
Prorocentrum spp.	Ehrenberg
Protoperidinium bipes	Paulsen (Balech)
Protoperidinium brevipes	(Paulsen) Balech
Protoperidinium conicum	(Gran) Balech
Protoperidinium denticulatum	(Gran & Braarud) Balech
Protoperidinium depressum	(Bailey) Balech
Protoperidinium excentricum	(Paulsen) Balech
Protoperidinium ovatum	Pouchet
Species (2001-2002)	**Authority**

Protoperidinium punctulatum	(Paulsen) Balech
Protoperidinium spp.	Bergh
Protoperidinium steinii	(Jorgensen) Balech
Pseudo-nitzschia americana	Hasle
Pseudo-nitzschia delicatissima group	Hasle
Pseudo-nitzschia seriata group	Hasle
Ptychocylis spp.	Brandt
Rhabdonema spp.	Kutzing
Rhizosolenia hebetata f. *semispina*	(Hensen) Gran
Rhizosolenia imbricata	Brightwell
Rhizosolenia pungens	Cleve-Euler
Rhizosolenia setigera	Brightwell
Rhizosolenia spp.	Brightwell
Salpingella spp.	Jorgensen
Scrippsiella sp.	Balech ex Loeblich III
Scrippsiella trochoidea	(Stein)Loeblich
Skeletonema costatum	(Greville) Cleve
Staurastrum spp.	Meyen ex Ralfs
Stephanopyxis turris	(Greville & Arnott) Ralfs
Tabellaria spp.	Ehrenberg
Thalassionema nitzschioides	(Grunow) Grunow ex Hustedt
Thalassiosira auguste-lineata	(C.A. Schmidt) Fryxell & Hasle
Thalassiosira baltica	(Grunow) Ostenfeld
Thalassiosira bioculata var. *exigua*	(Grunow) Hustedt
Thalassiosira gravida	Cleve
Thalassiosira nordenskioeldii	Cleve
Thalassiosira oestrupii	(Ostenfeld) Hasle
Thalassiosira punctigera	(Castracane) Hasle
Thalassiosira sp. (small)	Meunier
Thalassiosira spp.	Cleve
Tintinnida	Kofoid & Campbell
Tintinnopsis campanula	Ehrenberg
Unarmoured dinoflagellate	

Lifestages

Alexandrium fundyense (cyst)
Alexandrium fundyense (duplet)
Alexandrium fundyense (fusing)
Alexandrium fundyense (planozygote)
Alexandrium fundyense (quadruplet)
Alexandrium fundyense (triplet)

Appendix 2. Phytoplankton densities as number of cells•L^{-1} in 2001-2002.

9-Jan-01	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Actinoptychus senarius	20		40	80	200	160		160
Amphidinium carterae				20				
Armoured dinoflagellate		40		20				
Asterionellopsis glacialis	80	20				20		20
Aulacoseira granulata							20	
Centric diatom	20			80	20	60		40
Ceratium fusus	20		20					
Ceratium lineatum			20		20			
Chaetoceros simplex				20				
Chaetoceros spp. (Hyalochaete)								20
Corethron hystrix	20					20		
Coscinodiscus spp.		20	60	20	20	40	20	100
Cylindrotheca closterium	220	100	200	900	500	440	760	440
Dactyliosolen fragilissimus							20	
Dictyocha fibula					40			60
Dictyocha speculum	20	20	20		20		60	
Dinophysis acuminata		20						
Dinophysis norvegica								20
Ditylum brightwellii	100	40	80	120	220	80	60	120
Eucampia zodiacus			20					
Guinardia delicatula	140	140	80	380	40	140	60	100
Guinardia flaccida								100
Guinardia striata				20				
Gyrodinium spp.		40						
Gyrosigma fasciola						20		
Laboea sp.			20				60	20
Leptocylindrus minimus		40		20				40
Licmophora spp.					20			
Melosira spp.			20					
Mesodinium rubrum	700	340	780		80		840	860
Navicula distans	100	80	20		20	40	60	40
Odontella aurita					40			
Paralia sulcata		20		20				
Pennate diatom	80	20	100	240	120	140	240	120
Pleurosigma / Gyrosigma			20	40	80	120		
Pleurosigma angulatum	60					60		20
Pleurosigma strigosum	60	40	80					20
Prorocentrum micans					20	20		
Protoperidinium spp.		20				20	20	20
Pseudo-nitzschia delicatissima group	40	20	60	320		80	160	160
Pseudo-nitzschia seriata group								40
Rhizosolenia hebetata f. *semispina*		20	40	80				
Rhizosolenia imbricata			20					
Rhizosolenia setigera	60	20			20	40		120
Rhizosolenia spp.								20
Scrippsiella trochoidea				20				
Stephanopyxis turris			20				20	
Tabellaria spp.							40	
Thalassionema nitzschioides	140	60	80	60	20	140	40	80
Thalassiosira sp. (tiny)				20				
Thalassiosira spp.		20		200	60		160	20
Tintinnida	20			20	40	80		20
Unarmoured dinoflagellate	20	20						
13-Feb-01								
Actinoptychus senarius	20	20	40		80			100
Alexandrium pseudogonyaulax							20	
Amphidinium carterae					20		20	
Asterionellopsis glacialis	20			40		20		

13-Feb-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Aulacoseira ambigua								40
Aulacoseira granulata		20						
Biddulphia alternans								20
Centric diatom				20	60		120	20
Ceratium fusus		20						
Chaetoceros debilis				20				
Chaetoceros similis		20						
Chaetoceros spp. (Hyalochaete)		20	20					20
Corethron hystrix	40	40	20			20		
Coscinodiscus spp.			60	40	40	40		20
Cylindrotheca closterium	200	260	460	140	440	360	420	200
Dictyocha speculum					40			40
Ditylum brightwellii	40	120	60	40	20		60	100
Eutreptiella sp.		40						
Guinardia delicatula	80	40	20	20		20	80	
Gyrodinium spp.				20				40
Gyrosigma fasciola		20	20					
Gyrosigma tenuissimum	20							
Helicostomella spp.				20				
Leptocylindrus minimus	40	60	40		20			120
Licmophora spp.	20							
Melosira spp.						20		
Mesodinium rubrum	20	160	200				300	140
Navicula distans	60	40	40		20	100	100	60
Odontella aurita				20				20
Paralia sulcata			20					40
Pennate diatom	80	140	160	60	140	240	220	100
Pleurosigma / Gyrosigma	20			40				
Pleurosigma angulatum			20		40	20		40
Pleurosigma strigosum						40		20
Porosira glacialis								60
Pseudo-nitzschia delicatissima group	200	620	160	40	140	180	400	700
Rhizosolenia hebetata f. semispina			20		20	40	20	
Rhizosolenia imbricata								20
Rhizosolenia setigera	80	20	20				20	20
Rhizosolenia spp.					20	40		
Skeletonema costatum		80	40					40
Tabellaria spp.			60					
Thalassionema nitzschioides		60		20	20			60
Thalassiosira baltica		20						
Thalassiosira gravida	20							
Thalassiosira nordenskioeldii				40		20		
Thalassiosira punctigera			20		20			
Thalassiosira sp. (tiny)						40		
Thalassiosira spp.	100	140		60	40	20	60	100
Tintinnida			20		40	40		40
Unarmoured dinoflagellates		20						20
20-Mar-01								
Actinoptychus senarius		20						
Alexandrium ostenfeldii			20				80	
Amphidinium carterae				40	20			
Amphidinium sphenoides					20			
Armoured dinoflagellate			20					
Asterionellopsis glacialis	80	40		40	80			
Aulacoseira ambigua				40	20	40		40
Centric diatom						80		
Ceratium lineatum	80							
Chaetoceros atlanticus						20		

20-Mar-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Chaetoceros constrictus			20					
Chaetoceros debilis			40	120			240	40
Chaetoceros pseudocrinitus		20						
Chaetoceros similis							80	
Chaetoceros simplex	80			40				160
Chaetoceros spp. (Hyalochaete)	2320	480	840	1000	620	140	1520	3800
Commation cryoporinum	80			40				
Coscinodiscus spp.		20			20	20		
Cylindrotheca closterium	400	140	120	480	1460	1100	160	400
Dictyocha speculum	160	40	240	120	60	60	240	40
Ditylum brightwellii			40		80	80	160	40
Eutreptiella sp.	80		20	40				
Guinardia delicatula				80	60			40
Gyrodinium spp.			220	360	20		160	
Gyrosigma fasciola						40		
Laboea sp.				80				
Leptocylindrus danicus								40
Leptocylindrus minimus		20	160	40	80	60	80	320
Licmophora spp.						20		
Mesodinium rubrum	800		200	80		100	4000	
Navicula distans	160	40		40		60	80	40
Navicula transitans var. *derasa* f. *delicatula*				40	220	100		
Odontella aurita				40		40		
Odontella obtusa							80	
Paralia sulcata						20		
Pennate diatom	720	20	20	120	220	80	240	40
Phaeocystis pouchetii	160			40	60			360
Pleurosigma / Gyrosigma				40				
Pleurosigma angulatum	160							
Porosira glacialis					20			
Pseudo-nitzschia delicatissima group	4080	3340	1240	2200	1100	260	4000	6440
Pseudo-nitzschia seriata group	80							
Rhizosolenia hebetata f. *semispina*		20		120	20		80	40
Rhizosolenia setigera	80	20	20					
Skeletonema costatum	160	60				40		
Tabellaria spp.				80				
Thalassionema nitzschioides			20		40		160	
Thalassiosira anguste-lineata		20	20	40				
Thalassiosira gravida								40
Thalassiosira nordenskioeldii	320	160	400	480	220		800	320
Thalassiosira sp. (tiny)		40		120	140	20	160	
Thalassiosira spp.	40960	2820	6560	35800	24280	6080	38960	32320
Tintinnida	80			40	20		960	
Unarmoured dinoflagellate			20	160			80	
1-May-01								
Alexandrium fundyense	160	80					40	160
Alexandrium ostenfeldii		80			40			80
Amphidinium carterae				40	40	20		
Amphidinium sphenoides				80				
Armoured dinoflagellate	200		200	240	40	80	40	320
Aulacoseira ambigua					40			
Brachionus spp.				40				
Centric diatom						100		
Cerataulina pelagica				40				
Ceratium lineatum					80			
Ceratium longipes			40					
Chaetoceros contortus			40			20		
Chaetoceros debilis	480	640	120	1200		20	280	

1-May-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Chaetoceros furcellatus								80
Chaetoceros pseudocrinitus	80						40	
Chaetoceros socialis		80						
Chaetoceros spp. (Hyalochaete)	240	400	40	1400	440	300	760	480
Chaetoceros spp. (Phaeoceros)					40	60		
Commation cryoporinum				120	80			
Corethron hystrix						20		
Coscinodiscus spp.		80		40	40		40	
Cylindrotheca closterium	40	80		280	160	40	40	
Dactyliosolen fragilissimus	80	80						80
Dictyocha speculum	40	80	120	160	40		80	
Dinophysis acuminata								80
Ditylum brightwellii	40				40	40		80
Eucampia zodiacus			40	80	40	20		
Eutreptiella sp.	40				40			160
Guinardia delicatula	40		40					
Gyrodinium spp.	160	400	120	360	320	60	40	480
Gyrosigma fasciola	80							
Heterocapsa triquetra			40					
Laboea sp.								80
Leptocylindrus danicus			40	40				
Leptocylindrus minimus				40				
Membraneis challengeri						120		
Mesodinium rubrum	1280	320	160	80			640	1680
Navicula distans			80	40	80	80	120	160
Navicula transitans var. *derasa* f. *delicatula*						20		
Neodenticula seminae						40		
Paralia sulcata	40							
Pennate diatom	40			160				80
Phaeocystis pouchetii	6440	16880	1320	20960	8040	4120	18000	3440
Porosira glacialis				40				
Protoperidinium spp.	40	160	120		40			320
Protoperidinium steinii			40					
Pseudo-nitzschia delicatissima group	6560	2800	2080	7280	1840	280	2160	7360
Pseudo-nitzschia seriata group			160			120		
Ptychocylis spp.			40					
Rhizosolenia hebetata f. *semispina*	40				80	160	40	
Rhizosolenia setigera	40			80				
Skeletonema costatum			40					
Stephanopyxis turris		80		200				
Thalassionema nitzschioides	80				40		120	80
Thalassiosira anguste-lineata	40	80	120					
Thalassiosira baltica		80						
Thalassiosira gravida			40		80			
Thalassiosira nordenskioeldii	16840	37440	10760	182030	22280	27744	4280	14000
Thalassiosira punctigera		80				20		
Thalassiosira sp. (tiny)						20		
Thalassiosira spp.	160	480	280	160	120	80	520	240
Tintinnida	280	240	160		120			320
Unarmoured dinoflagellate	120		120	160	80		320	640
7-May-01								
Alexandrium fundyense		1120	160	240	80	160		220
Alexandrium fundyense (duplet)		160						
Alexandrium ostenfeldii	160		160	240				100
Apedinella radians				80				
Armoured dinoflagellate	80	1600	640	480	80	80	20	240
Aulacoseira ambigua		160						
Centric diatom	80						20	

7-May-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Ceratium longipes	160							
Chaetoceros atlanticus								20
Chaetoceros debilis								60
Chaetoceros decipiens	80	160		80			20	20
Chaetoceros pseudocrinitus							20	
Chaetoceros similis	80							
Chaetoceros socialis							20	
Chaetoceros spp. (Hyalochaete)	400			1760	400	480	80	
Chaetoceros spp. (Phaeoceros)					80			
Commation cryoporinum					160	160		20
Copepoda	160							20
Corethron hystrix							20	
Coscinodiscus spp.				80				
Cylindrotheca closterium				80		880	40	
Dactyliosolen fragilissimus								60
Dictyocha speculum	80		160	80				40
Dinophysis acuminata								20
Dinophysis norvegica		160						
Dinophysis spp.				80				
Eutreptiella sp.	80					80		
Gonyaulax spinifera								20
Grammatophora marina	80							
Guinardia delicatula				80				
Gyrodinium spp.	160	1280	480	960	240	400	180	220
Heterocapsa triquetra		480	160	80				40
Laboea sp.	240	160		400	80			120
Lauderia annulata							20	
Leptocylindrus danicus								60
Leptocylindrus minimus			160				20	60
Licmophora spp.				80	80			
Membraneis challengeri						160		
Mesodinium rubrum	640	2240	1600	560			20	1600
Navicula distans							100	
Navicula transitans var. *derasa* f. *delicatula*	160			400	80	80		
Neodenticula seminae						80		
Paralia sulcata	80							
Pennate diatom		160		80		80	20	
Phaeocystis pouchetii	7280	24640	32960	20800	9600	22560	6480	1460
Porosira glacialis			160	80				
Protoperidinium denticulatum		320						
Protoperidinium spp.	240		160		240		20	80
Pseudo-nitzschia delicatissima group	6880	6880	9920	5200	2560	4400	4720	3160
Pseudo-nitzschia seriata group				160	160	320		20
Rhizosolenia hebetata f. *semispina*	80	160	320		80			
Rhizosolenia spp.					80			
Stephanopyxis turris				320				40
Thalassiosira anguste-lineata	560	480	1280	960		80		
Thalassiosira nordenskioeldii	27840	36960	25120	349112	37120	12240	820	1540
Thalassiosira punctigera						80		
Thalassiosira spp.	400	320	1440	80		80	20	60
Tintinnida	320	1920	160	1760	80	160		1040
Unarmoured dinoflagellate	80	1280	160	880	80	80	80	540
15-May-01								
Achnanthes sp.								20
Alexandrium fundyense	240	160		160				
Alexandrium ostenfeldii	80			40				20
Amphidinium sphenoides			80	80	40	60		
Apedinella radians				120				

15-May-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Armoured dinoflagellate		80		200	200	60	80	20
Asterionellopsis glacialis			160	80	40	80		
Aulacoseira ambigua				40	40			
Centric diatom						20		
Ceratium horridum				40				
Ceratium longipes		240		40	40			20
Chaetoceros atlanticus				40				
Chaetoceros constrictus				200				
Chaetoceros contortus			960	1000	840			
Chaetoceros convolutus		80						
Chaetoceros convolutus f. *trisetosa*		80						
Chaetoceros debilis	320	80	80				40	
Chaetoceros decipiens	80			240				
Chaetoceros didymus			80					
Chaetoceros laciniosus		80						
Chaetoceros radicans					80			
Chaetoceros spp. (Hyalochaete)	320	240	880	1160	1000	80	40	40
Chaetoceros spp. (Phaeoceros)				40	40			
Commation cryoporinum		80				20	80	
Copepoda								20
Coscinodiscus spp.		800	80	160	40	20	40	20
Cylindrotheca closterium	560	800	240	40	200	160	40	40
Dactyliosolen fragilissimus	80	80		120	120			
Dictyocha speculum		240		40	120			
Dinobryon spp.							40	
Dinophysis acuminata			80	40				
Dinophysis norvegica				40	40			
Dinophysis spp.				40				
Ditylum brightwellii		80			80	40	40	
Eucampia zodiacus		160			120			
Eutreptiella sp.					40		40	
Fragilaria spp.						20		
Gyrodinium spp.	240	240	80	720	480	40	80	40
Gyrosigma fasciola							40	
Heterocapsa triquetra		80		120	80			
Laboea sp.	160	320					120	20
Lauderia annulata								20
Leptocylindrus minimus								20
Licmophora spp.	160	80	80	40				
Melosira monoliformis						20		
Melosira spp.					40			
Membraneis challengeri						20		
Mesodinium rubrum	800	1360		680	240		520	240
Navicula distans			80			20	40	40
Navicula transitans var. *derasa* f. *delicatula*		80		120	80	20		
Neodenticula seminae						20		
Odontella aurita		80						
Parafavella spp.					40			
Pennate diatom			160	40	80	40		
Phaeocystis pouchetii	14720	21680	1200	2280	8920	4040	19160	19800
Porosira glacialis		80		40	40	40		20
Preperidinium meunieri			240	280				
Proboscia alata			160					
Prorocentrum sp. (small)					40			
Protoperidinium brevipes					40			
Protoperidinium depressum	80							
Protoperidinium spp.			80					
Pseudo-nitzschia delicatissima group	5760	5200	1760	1440	400	600	2600	2580

15-May-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Pseudo-nitzschia seriata group	80			240		120		
Rhizosolenia hebetata f. *semispina*			160		120			20
Rhizosolenia spp.			80					
Skeletonema costatum	80	240	240		40		40	
Stephanopyxis turris		80	160	40	80			60
Tabellaria spp.				120				
Thalassionema nitzschioides			80		40		40	
Thalassiosira anguste-lineata	400	240		280	480	40		80
Thalassiosira baltica	80							
Thalassiosira gravida	80							
Thalassiosira nordenskioeldii	17760	24720	12800	168776	111556	2200	80	1880
Thalassiosira punctigera	160	240		40	280			
Thalassiosira sp. (tiny)					80			
Thalassiosira spp.	560	1280	14560	960	600		80	460
Tintinnida	160	1120		240	120	60		80
Unarmoured dinoflagellate		240		200	80	80		40
22-May-01								
Actinoptychus senarius								40
Alexandrium fundyense		320	240					460
Alexandrium fundyense (duplet)		80						
Alexandrium ostenfeldii					40			80
Amphidinium carterae					40			
Amphidinium sphenoides					120	40		
Armoured dinoflagellate	160	880	800			20		280
Asterionellopsis glacialis		80	80	160	40	40		
Brachionus spp.		80						
Centric diatom				80		20	40	
Ceratium fusus				80				
Ceratium longipes			480					40
Chaetoceros borealis						40		
Chaetoceros contortus	3040	1760	1600	1200	1840	20		
Chaetoceros convolutus f. *trisetosa*								40
Chaetoceros debilis	320	80		80		20	40	160
Chaetoceros decipiens			80	80				
Chaetoceros diadema						20		
Chaetoceros laciniosus			160					80
Chaetoceros pseudocrinitus		80						
Chaetoceros simplex				80			40	160
Chaetoceros socialis		320	80	80				40
Chaetoceros spp. (Hyalochaete)	3680	1280	1040	1200	1200	300	80	120
Chaetoceros spp. (Phaeoceros)				160	40	140		
Commation cryoporinum					200	40		
Copepoda	160	160						40
Coscinodiscus spp.	160	160	240			60		
Cylindrotheca closterium	320	400	400	960	360	180	80	120
Dactyliosolen fragilissimus	320	400	160	320		20		80
Dictyocha speculum			160	80			80	160
Dinophysis norvegica		80	80					
Eucampia zodiacus		80	80					
Eutreptiella sp.		160	320		40			520
Guinardia delicatula		480						40
Gyrodinium spp.	160	400	320	80	320		40	40
Heterocapsa triquetra		80						40
Laboea sp.	480	1840	160	80				560
Leptocylindrus minimus		80	320	320			40	200
Licmophora spp.						20		
Mesodinium rubrum	480	2480	800				1160	3120
Navicula distans	480		80			40		40

22-May-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Navicula transitans var. *derasa* f. *delicatula*					400	20		
Neodenticula seminae						60		
Paralia sulcata						40		
Pennate diatom		240		160		40	40	
Phaeocystis pouchetii	960			1280	3320	580	10320	1160
Pleurosigma angulatum							40	
Porosira glacialis	160						40	
Proboscia alata			80					
Protoperidinium bipes								40
Protoperidinium depressum			160					
Protoperidinium spp.								200
Pseudo-nitzschia delicatissima group	8320	5200	4880	3120	400	140	2360	4640
Pseudo-nitzschia seriata group	160					20		
Rhizosolenia hebetata f. *semispina*		160	80		160	40		320
Rhizosolenia spp.	160					40		
Scrippsiella trochoidea								120
Skeletonema costatum	160	800	640	480	80	40		
Stephanopyxis turris			240		40			80
Thalassiosira anguste-lineata	160	320	640	80	200	20		
Thalassiosira baltica			80					
Thalassiosira gravida			560					
Thalassiosira nordenskioeldii	12640	20160	34000	8480	3640	240	120	3600
Thalassiosira punctigera	320	80		160		20		40
Thalassiosira sp. (tiny)					200	60		
Thalassiosira spp.	43200	1040	1280	1760	53756	560	120	560
Tintinnida	640	2160	640		200	40	200	1640
Unarmoured dinoflagellate	800	80	480		40		80	160
30-May-01								
Alexandrium fundyense			80	880	40		40	120
Alexandrium fundyense (duplet)				80				
Alexandrium fundyense (quadruplet)				80				
Alexandrium ostenfeldii			120					
Alexandrium pseudogonyaulax				80				
Amphidinium carterae				160				
Armoured dinoflagellate			320	960	80	40	40	360
Asterionellopsis glacialis			200	880	80	280		
Brachionus spp.				160				
Ceratium horridum			40					
Ceratium lineatum				80				
Ceratium longipes			40					40
Chaetoceros borealis						20		
Chaetoceros constrictus			40		40	40		80
Chaetoceros contortus			3600	35840	2080	960		360
Chaetoceros debilis			80		80		200	120
Chaetoceros decipiens					120		200	40
Chaetoceros furcellatus						20		
Chaetoceros laciniosus			120				40	1240
Chaetoceros pseudocrinitus			200					920
Chaetoceros simplex			80					
Chaetoceros spp. (Hyalochaete)			1080	8720	2280	300	240	3160
Chaetoceros spp. (Phaeoceros)					40			
Commation cryoporinum			80	320	280	60		40
Copepoda							40	
Corethron hystrix						20		
Coscinodiscus spp.				160				80
Cylindrotheca closterium			200	1200	400	120	80	40
Dactyliosolen fragilissimus					120		120	320
Detonula confervacea						20		

30-May-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Dictyocha speculum			80					40
Dinobryon spp.				80				
Dinophysis acuminata								80
Dinophysis norvegica				240				
Dinophysis spp.								40
Eucampia zodiacus				160				
Eutreptiella sp.			720	480				160
Fragilaria spp.							40	
Guinardia delicatula								40
Guinardia flaccida				80				
Gyrodinium spp.			120	720	80		40	40
Heterocapsa triquetra			120					
Laboea sp.				560			80	40
Leptocylindrus danicus			240	800	120			400
Leptocylindrus minimus			480				560	2680
Licmophora spp.					80			
Membraneis challengeri					120			
Mesodinium rubrum			440	1920	80		1120	1400
Navicula distans				80	40	20		
Navicula transitans var. *derasa* f. *delicatula*					40	20		
Neodenticula seminae					40			
Pennate diatom					80	20		
Phaeocystis pouchetii						80	120	
Pleurosigma / Gyrosigma						20		
Pleurosigma angulatum							120	
Protoperidinium conicum				80				
Protoperidinium depressum				160				
Protoperidinium spp.			40	720	40		40	120
Pseudo-nitzschia delicatissima group			1400	4800	1040	280	760	65130
Pseudo-nitzschia seriata group								80
Rhizosolenia hebetata f. *semispina*			120	160	40		80	160
Rhizosolenia imbricata							40	
Rhizosolenia spp.					40		40	
Scrippsiella sp.			40					
Scrippsiella trochoidea			40	80				
Skeletonema costatum			80		80	60		
Stephanopyxis turris			40		40			240
Thalassionema nitzschioides						60		
Thalassiosira anguste-lineata				240	160	260		
Thalassiosira baltica						40		
Thalassiosira gravida			80	240	40			
Thalassiosira nordenskioeldii			5120	642952	169356	18200	1400	1400
Thalassiosira punctigera				80	160	40		
Thalassiosira sp. (tiny)					40	20		
Thalassiosira spp.			2000	1600	480	480	560	2160
Tintinnida			160	1440	40	60	80	1240
Unarmoured dinoflagellate			200	320	40	20	40	120
4-Jun-01								
Alexandrium fundyense	160	80					20	80
Alexandrium fundyense (duplet)		20						20
Armoured dinoflagellate	80	240					40	40
Asterionellopsis glacialis	1120	320					20	
Centric diatom	80							
Ceratium longipes	80						20	
Chaetoceros constrictus							40	
Chaetoceros contortus	1600	2880					120	560
Chaetoceros convolutus f. *trisetosa*		80						40
Chaetoceros debilis	80	160					460	280

4-Jun-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m

Chaetoceros decipiens		80			60	80
Chaetoceros diadema					40	240
Chaetoceros laciniosus		640			160	120
Chaetoceros pseudocrinitus		160			40	240
Chaetoceros simplex	80	320			20	40
Chaetoceros socialis		160				
Chaetoceros spp. (Hyalochaete)	1360	2080			980	1080
Commation cryoporinum						40
Copepoda	80				60	
Corethron hystrix	80					
Coscinodiscus spp.	160	80			60	
Cylindrotheca closterium	640	720			200	120
Dactyliosolen fragilissimus	160	80			20	40
Dictyocha speculum		80			40	120
Dinophysis acuminata					20	
Dinophysis norvegica						40
Dinophysis spp.		80				
Eucampia zodiacus						40
Eutreptiella sp.	80	240			60	40
Guinardia delicatula	160	80				160
Gyrodinium spp.					20	
Gyrosigma fasciola					20	
Helicostomella spp.					20	
Laboea sp.	240				300	40
Leptocylindrus danicus					20	
Leptocylindrus minimus	240	240			1220	880
Licmophora spp.	80	80				
Mesodinium rubrum	5280	400			2620	2760
Navicula distans	80				20	
Odontella aurita					20	
Paralia sulcata					20	
Pennate diatom	80	80				
Pleurosigma angulatum					100	
Porosira glacialis					20	
Proboscia alata						280
Protoperidinium brevipes					20	
Protoperidinium spp.	160	240			40	
Pseudo-nitzschia delicatissima group	4000	8320			2060	3600
Pseudo-nitzschia seriata group	80					
Rhabdonema spp.					20	
Rhizosolenia hebetata f. *semispina*	160	80			80	
Rhizosolenia setigera	80					
Rhizosolenia spp.	80					
Skeletonema costatum	400	400				
Stephanopyxis turris	160	80			100	160
Thalassiosira anguste-lineata	240					40
Thalassiosira gravida	80					40
Thalassiosira nordenskioeldii	1840	9760			1640	3280
Thalassiosira punctigera					20	
Thalassiosira sp. (tiny)	80					
Thalassiosira spp.	5760	3440			920	2200
Tintinnida	880	640			380	360
Unarmoured dinoflagellate	80				80	
12-Jun-01						
Alexandrium fundyense	260	440	420		80	240
Alexandrium fundyense (duplet)	60	120	20			40
Amphidinium carterae	80					
Amphidinium sphenoides				20		

12-Jun-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Amylax triacantha								40
Armoured dinoflagellate	80	160	320				560	360
Asterionellopsis glacialis		400	160	2480	1020	300	160	40
Attheya longicornis			80					
Brachionus spp.		40	40					40
Ceratium fusus							80	
Ceratium horridum		120	200					
Ceratium longipes	40	320						40
Chaetoceros affinis								40
Chaetoceros atlanticus		40	40					
Chaetoceros constrictus	40	80						
Chaetoceros contortus	2680	6760	7040	15840	1080	40	2080	2560
Chaetoceros convolutus		40	160					40
Chaetoceros convolutus f. *trisetosa*	80		160				80	
Chaetoceros debilis	120	120	40	160			2560	1720
Chaetoceros decipiens	40		40					
Chaetoceros diadema				160	20	20	80	
Chaetoceros furcellatus				240				
Chaetoceros laciniosus	280	440	720	640	40		1600	3720
Chaetoceros pseudocrinitus	160	200	200					1120
Chaetoceros radicans				80	20		80	
Chaetoceros similis	80		40					
Chaetoceros simplex	520	1040	800	160	60	60	560	40
Chaetoceros spp. (Hyalochaete)	2320	2480	5160	22560	1280	220	10480	9280
Chaetoceros spp. (Phaeoceros)	40			80	60	40		40
Chaetoceros teres			40	320			80	40
Commation cryoporinum				160		20	80	
Copepoda	80		160		20		80	160
Corethron hystrix		40		160	20			
Coscinodiscus spp.	40	40		160	40		80	40
Cylindrotheca closterium	680	920	1320	3120	1260	160	560	440
Dactyliosolen fragilissimus				240	100		240	320
Dictyocha speculum	40	360	160	160	20		160	80
Dinophysis acuminata			160					80
Dinophysis acuta		40						
Dinophysis norvegica			40					
Dinophysis spp.		40						
Ditylum brightwellii				80		20		
Ebria tripartita								40
Eucampia zodiacus	40						80	80
Eutreptiella sp.	160	120	200					80
Favella spp.		40						
Guinardia delicatula				80			240	160
Gyrodinium spp.	80	80	320	160			80	
Helicostomella spp.			40		20			120
Heterocapsa triquetra	40	40	200					
Laboea sp.	240	40	640				560	280
Leptocylindrus danicus	40	200	240	2480	580		800	440
Leptocylindrus minimus	760	720	520	880	80		10880	11040
Membraneis challengeri				80	40			
Mesodinium rubrum	960	320	1720	240	60		13600	4120
Navicula distans	40	40		160	60	40		
Navicula transitans var. *derasa* f. *delicatula*				160		20		
Neodenticula seminae					20			
Paralia sulcata						40		
Pennate diatom				80		20	1360	
Pleurosigma angulatum					20	60	80	
Porosira glacialis					20			

12-Jun-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Proboscia alata								40
Prorocentrum sp. (small)				80				
Protoperidinium bipes			40				80	40
Protoperidinium brevipes								40
Protoperidinium depressum	80	80	40					40
Protoperidinium spp.	40	80	80		60		80	80
Pseudo-nitzschia delicatissima group	4360	10360	2760	7200	2040	720	14080	8280
Pseudo-nitzschia seriata group		120			120		80	
Rhizosolenia hebetata f. *semispina*			40				160	80
Rhizosolenia imbricata			40					
Rhizosolenia spp.			40					
Salpingella spp.							80	
Scrippsiella sp.	40							
Skeletonema costatum	80	320		160	80	20	80	40
Stephanopyxis turris	40			480	60		80	160
Thalassionema nitzschioides					20			
Thalassiosira anguste-lineata				80	60			
Thalassiosira gravida					80			
Thalassiosira nordenskioeldii	880	2440	1480	1200				320
Thalassiosira punctigera					60			40
Thalassiosira sp. (tiny)				240	160	80		
Thalassiosira spp.	560	1120	1640	32160	3560	160	1200	400
Tintinnida	320	400	360		100	40	1200	640
Unarmoured dinoflagellate			40	80	20		160	120
19-Jun-01								
Alexandrium fundyense	4280	2360	540	6240			80	2680
Alexandrium fundyense (duplet)	400	80	40	640				40
Alexandrium fundyense (triplet)	40							
Alexandrium ostenfeldii	80		40					
Amphidinium carterae				160				
Amphidinium sphenoides						80		
Armoured dinoflagellate	440	800	880	2080	160			1000
Asterionellopsis glacialis	40		80	1120	2480	920		80
Centric diatom					80	40		
Cerataulina pelagica				160			80	
Ceratium furca								40
Ceratium fusus								40
Ceratium horridum		400	120	640				160
Ceratium lineatum								40
Ceratium longipes	80	160	120	480			160	400
Ceratium spp.		40						40
Chaetoceros atlanticus		40						
Chaetoceros constrictus							800	
Chaetoceros contortus	440	880	2520	25760	13120	620	400	
Chaetoceros convolutus			40					
Chaetoceros convolutus f. *trisetosa*		200	160				80	
Chaetoceros debilis	120	80	120		160		3040	360
Chaetoceros diadema						180		
Chaetoceros filiformis							720	
Chaetoceros furcellatus			40	160	480	180	80	40
Chaetoceros laciniosus	360	40	560	1120		20	1760	1320
Chaetoceros lorenzianus							80	
Chaetoceros pseudocrinitus		40	240					
Chaetoceros radicans						80	80	
Chaetoceros similis	40	120		160				
Chaetoceros simplex	40	40			160	100	720	40
Chaetoceros socialis				160				
Chaetoceros spp. (Hyalochaete)	1600	2560	3880	38080	9600	4080	10880	2080

19-Jun-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Chaetoceros spp. (Phaeoceros)						60		
Chaetoceros teres					80		160	
Commation cryoporinum		40				120		
Copepoda			120	160		20		40
Corethron hystrix						20		
Coscinodiscus spp.	40	40						40
Cylindrotheca closterium	360	520	800	9280	6560	1220	1440	440
Dactyliosolen fragilissimus		120	80		400		240	160
Detonula confervacea	40							
Dictyocha speculum	80	760	320	320	80	20	320	320
Dinophysis acuminata			80	160				200
Dinophysis acuta								40
Dinophysis fortii	40							40
Dinophysis norvegica								40
Ditylum brightwellii						20		
Ebria tripartita							80	240
Eucampia zodiacus	80			160	80			40
Eutreptiella sp.	1160	6840	200	5440				80
Gonyaulax spinifera		40						
Guinardia delicatula	280		120	480			1120	280
Guinardia flaccida					80			
Gyrodinium spp.	240	560	600	1120	80	20	80	120
Helicostomella spp.								200
Heterocapsa triquetra	840	640	1120	1120	80		80	600
Laboea sp.	40	40	320	800				40
Leptocylindrus danicus	680	520	1240	3200	1040	40	1280	2200
Leptocylindrus minimus	1040	2000	1400	5120	160		8640	4480
Licmophora spp.						20		
Mesodinium rubrum	1040	120	1960	4000	160		2400	2400
Navicula distans				160	80	20		
Parafavella spp.			40					
Pennate diatom					160			
Pleurosigma angulatum					80		80	
Prorocentrum minimum			80					
Prorocentrum sp. (small)				160				
Protoperidinium bipes		40		1120				40
Protoperidinium brevipes		40	40	160				
Protoperidinium conicum								40
Protoperidinium denticulatum								40
Protoperidinium depressum								120
Protoperidinium spp.	200	280	240	320			320	320
Pseudo-nitzschia delicatissima group	11560	10480	10440	37920	10800	800	14400	3280
Pseudo-nitzschia seriata group	200			320	80	40		120
Ptychocylis spp.		40	40					40
Rhizosolenia hebetata f. *semispina*	40							40
Rhizosolenia imbricata		40				20		40
Scrippsiella sp.	520	720	120	320			80	
Scrippsiella trochoidea	600	1000	80	640				480
Skeletonema costatum	80	40	120		240	120	240	
Stephanopyxis turris	120		80	1280	720	40	1200	80
Thalassionema nitzschioides	40							
Thalassiosira anguste-lineata				320				
Thalassiosira gravida					80			
Thalassiosira nordenskioeldii	280	280	320	2400	1120	1440	560	
Thalassiosira sp. (tiny)						20		
Thalassiosira spp.	80	40	120	4480	4000	1740	1120	40
Tintinnida	360	200	600	1920	160	160	560	1360
Unarmoured dinoflagellate	120	40	400	480			80	80

	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
26-Jun-01								
Alexandrium fundyense	6720	6600	25160	1680	160		100	80
Alexandrium fundyense (duplet)	400	360	440	160	80			
Alexandrium fundyense (quadruplet)	40		80					
Alexandrium fundyense (triplet)			80					
Alexandrium ostenfeldii			160					
Amphidinium carterae	40			80	80			
Amphidinium sphenoides					320			
Amylax triacantha							20	
Armoured dinoflagellate	1520	6320	2960	480			40	400
Asterionellopsis glacialis		120			640	320		
Attheya septentrionalis			400					
Brachionus spp.		40	40					80
Centric diatom					80	20		
Cerataulina pelagica	40				240		160	80
Ceratium horridum	80	40		320	80			240
Ceratium lineatum								80
Ceratium longipes	120			560	160	40	40	960
Ceratium tripos					80			
Chaetoceros atlanticus				80		20	20	
Chaetoceros contortus		80	520	2080	2960	160	20	
Chaetoceros convolutus	80						40	
Chaetoceros convolutus f. *trisetosa*		160	120				20	
Chaetoceros debilis	160	40	40	160	320	60	1500	2080
Chaetoceros decipiens					80			80
Chaetoceros furcellatus					160	80	20	
Chaetoceros laciniosus	120	40	40	80	80		180	240
Chaetoceros pseudocrinitus		40						240
Chaetoceros similis					160			
Chaetoceros simplex		80	80			20	60	
Chaetoceros spp. (Hyalochaete)	2160	680	1240	15200	9200	360	520	2880
Chaetoceros spp. (Phaeoceros)	40			400	320	40		
Chaetoceros teres				160				320
Commation cryoporinum					240			
Copepoda	40				80		20	160
Corethron hystrix								80
Coscinodiscus spp.					240		20	
Cylindrotheca closterium	240	440	280	2960	9040	1360	660	640
Dactyliosolen fragilissimus	80		40	320	80		240	80
Dictyocha speculum	160	360	120	160	160	80	80	880
Dinophysis acuminata	40	40		640	80		80	1440
Dinophysis norvegica				80			60	80
Dinophysis spp.								80
Ebria tripartita		120						240
Eucampia zodiacus					80		20	
Eutintinnus sp.		40						
Eutreptiella sp.	1360	5320	4080	240			20	320
Gonyaulax spinifera	40							
Guinardia delicatula	80	40	280			80	520	880
Gyrodinium spp.	80	120		320	80		40	400
Helicostomella spp.	120	40					20	80
Heterocapsa triquetra	5320	35320	600	240				720
Laboea sp.			160	160			180	320
Leptocylindrus danicus	240	880	560	3440	960	80	380	4240
Leptocylindrus minimus	960	1640	560	160	80		400	160
Mesodinium rubrum	2800	1880		1120		80	3300	3920
Navicula distans	80	40			80	140		
Navicula transitans var. *derasa* f. *delicatula*					80			
Parafavella spp.	40							

26-Jun-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Paralia sulcata						60		
Phaeocystis pouchetii	40		120					
Pleurosigma / Gyrosigma					80	20		
Pleurosigma angulatum		40				20	180	240
Prorocentrum minimum		40						
Prorocentrum sp. (small)				80				
Protoperidinium bipes		40		80				
Protoperidinium brevipes				80				80
Protoperidinium depressum				160	80			240
Protoperidinium spp.	160	160	120	320	80		40	240
Pseudo-nitzschia delicatissima group	2960	3680	2200	20000	9280	820	1100	240
Pseudo-nitzschia seriata group	80	40		400	80		60	
Ptychocylis spp.	40							
Rhizosolenia hebetata f. *semispina*						20		
Rhizosolenia imbricata			40	400	160			80
Rhizosolenia spp.				80	240			
Salpingella spp.				80				
Scrippsiella sp.	280	80	1280					
Scrippsiella trochoidea	720	560	4960	160			20	
Skeletonema costatum	40		160				140	
Stephanopyxis turris	80			480	240	60	120	80
Thalassionema nitzschioides					160	20		
Thalassiosira gravida							20	
Thalassiosira nordenskioeldii	40		40		160		20	160
Thalassiosira punctigera						20	20	
Thalassiosira sp. (tiny)					240			
Thalassiosira spp.				240	320	40	20	
Tintinnida	680	5760	80	320	640	160	580	1360
Unarmoured dinoflagellate	80	120	160	80	160		100	560
3-Jul-01								
Actinoptychus senarius							40	
Alexandrium fundyense	800	9680	4960	280	20			760
Alexandrium fundyense (cyst)					20			
Alexandrium fundyense (duplet)	20	640	480					40
Alexandrium fundyense (triplet)			40					
Amphidinium carterae	40							80
Amphidinium sphenoides					20			
Amylax triacantha							20	
Armoured dinoflagellate		400	480	80	20		20	520
Asterionellopsis glacialis	20	40		480	80	100	60	160
Brachionus spp.			40					
Centric diatom						20		
Cerataulina pelagica	20	40	80	80	80		220	240
Ceratium fusus					20			
Ceratium horridum					20			
Ceratium lineatum		40						80
Ceratium longipes	100	200	200	40	60			480
Ceratium tripos						20		
Chaetoceros contortus	40	200	880	800	100	20		
Chaetoceros convolutus	40	40	80					40
Chaetoceros convolutus f. *trisetosa*	60	40					20	
Chaetoceros debilis	120	80	600	520	20		1360	2320
Chaetoceros decipiens		40						
Chaetoceros furcellatus		40	40					
Chaetoceros laciniosus		80	200				40	200
Chaetoceros lorenzianus				40				
Chaetoceros pseudocrinitus			40					
Chaetoceros simplex		80				40	120	

3-Jul-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Chaetoceros socialis	120							40
Chaetoceros spp. (Hyalochaete)	920	2000	4000	14840	1900	700	460	6480
Chaetoceros spp. (Phaeoceros)			120	120	220	120		80
Chaetoceros teres	100	80	40	80			40	320
Commation cryoporinum					20	20		
Copepoda	20		40		20			120
Corethron hystrix				40				40
Coscinodiscus spp.					20	20		
Cylindrotheca closterium	300	1120	1200	6080	4240	560	1020	400
Dactyliosolen fragilissimus	180	80	200	160	20		600	240
Detonula confervacea						40		
Dictyocha speculum	40	80	320	160	60		380	1440
Dinophysis acuminata	20	80					20	1400
Dinophysis norvegica								320
Dinophysis spp.				40				
Ditylum brightwellii					40			
Ebria tripartita								40
Eucampia zodiacus					20		40	
Eutreptiella sp.	40	520	480	200				
Favella spp.								40
Guinardia delicatula	200	120	80	520	140		2060	1840
Guinardia flaccida					40			
Gyrodinium spp.	20	120	40	240	40	20	120	40
Helicostomella spp.	20						120	2240
Heterocapsa triquetra		3440	4520	480		20		360
Laboea sp.	80	40	80	80			140	480
Leptocylindrus danicus	140	720	640	2680	500	60	60	240
Leptocylindrus minimus	200	640	600			20	500	
Membraneis challengeri					40			
Mesodinium rubrum	640	440	280	280		40	1060	3520
Navicula distans					20	80	20	
Navicula transitans var. *derasa* f. *delicatula*					20			
Parafavella spp.								40
Paralia sulcata					20			
Pennate diatom						40		
Pleurosigma / Gyrosigma							20	
Pleurosigma angulatum	20						140	
Proboscia alata				40				
Prorocentrum minimum				40				
Protoperidinium brevipes	20		120					80
Protoperidinium depressum						20		80
Protoperidinium spp.	20	80	40	40	20	20		160
Pseudo-nitzschia delicatissima group	8200	18440	13440	85544	4320	520	720	720
Pseudo-nitzschia seriata group		80	40	680	20	20	40	80
Ptychocylis spp.						20		
Rhizosolenia imbricata		80	40				60	40
Rhizosolenia spp.				40	40			40
Scrippsiella sp.		320	320					40
Scrippsiella trochoidea	20	480	240				20	
Skeletonema costatum	40	40	160	80	20		120	
Stephanopyxis turris		40		280	60			
Thalassiosira anguste-lineata			40					
Thalassiosira gravida				40				
Thalassiosira nordenskioeldii	20	40	40					
Thalassiosira sp. (tiny)					20			
Thalassiosira spp.			40	600	60	20	480	
Tintinnida	260	160	480	480	200	260	700	3800
Unarmoured dinoflagellate		80	80	40		20	200	160

10-Jul-01	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Alexandrium fundyense	2800	5120	13520	400			240	2960
Alexandrium fundyense (cyst)				80				
Alexandrium fundyense (duplet)	200	320	880	80			40	280
Alexandrium fundyense (planozygote)	40	200	800					40
Alexandrium fundyense (triplet)								80
Amphidinium carterae				320			40	
Amphidinium sphenoides				80				
Amylax triacantha			80					
Apedinella radians				80				
Armoured dinoflagellate	40	600	1440	160	40	40	120	360
Asterionellopsis glacialis				80	120	40	40	
Brachionus spp.				80				
Centric diatom					40			
Corataulina pelagica		80	160	320			520	80
Ceratium fusus				80				40
Ceratium horridum			160					
Ceratium lineatum		40						80
Ceratium longipes	120	480	1120	400		20		360
Ceratium tripos			80					
Chaetoceros contortus		80	160	880	240	60	40	
Chaetoceros convolutus		80	40					160
Chaetoceros convolutus f. *trisetosa*	40	40					40	
Chaetoceros debilis	160	800	120	240	200		1440	1480
Chaetoceros laciniosus		40	80					
Chaetoceros simplex							120	
Chaetoceros socialis	560	1280	960	80			80	920
Chaetoceros spp. (Hyalochaete)	600	1960	1720	17920	6760	1120	1400	16800
Chaetoceros spp. (Phaeoceros)	120	40		240	40	20		
Chaetoceros teres	120	80	40	240			80	160
Commation cryoporinum						40		
Copepoda	40	80		160				
Corethron hystrix						20	40	40
Cylindrotheca closterium	960	1600	720	6320	4840	2520	1600	480
Dactyliosolen fragilissimus			40	720			1360	360
Detonula confervacea	40							
Dictyocha speculum	400	280	920	1360	200		640	1240
Dinobryon spp.							80	
Dinophysis acuminata	240	400	840	240				1880
Dinophysis acuta		40	40					
Dinophysis norvegica	40	120	120	80			40	160
Dinophysis pulchella								80
Dinophysis spp.							40	
Ebria tripartita	400	80	40					40
Eucampia zodiacus							80	
Eutreptiella sp.	40	80	80					
Favella spp.			40					40
Gonyaulax spinifera		40	40					
Guinardia delicatula	1280	400	360	800	360	160	8840	4640
Gyrodinium spp.	120	160	160	400	80		240	560
Helicostomella spp.	240	120	280				80	800
Heterocapsa triquetra	320	6120	8040	240			40	1520
Laboea sp.		200	200	480			40	160
Lauderia annulata								40
Leptocylindrus danicus	80	320	440	1280	920	160		40
Leptocylindrus minimus	80	80		80	40		1400	
Licmophora spp.				80				
Mesodinium rubrum	2880	1120	10200	560			4280	7320
Navicula distans	40				40	20		40

10-Jul-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Navicula transitans var. *derasa* f. *delicatula*						20		
Parafavella spp.		80	40					
Paralia sulcata				80				
Pennate diatom		40		80	120	20		
Pleurosigma angulatum	160	40		80			320	320
Proboscia alata		80				40		
Proboscia eumorpha					40			
Prorocentrum minimum	40							
Protoperidinium bipes		40						40
Protoperidinium brevipes			200	80				40
Protoperidinium depressum		40	40					80
Protoperidinium spp.	120	120	320	160		20		160
Pseudo-nitzschia delicatissima group	2880	3600	1240	36160	7040	3020	2080	360
Ptychocylis spp.				80	40			
Rhizosolenia hebetata f. *semispina*			40		40			
Rhizosolenia imbricata	40	40		560			160	160
Scrippsiella sp.	40	80	520					200
Scrippsiella trochoidea	40	120	680					40
Skeletonema costatum	40	120					320	
Stephanopyxis turris								40
Thalassionema nitzschioides							40	
Thalassiosira nordenskioeldii	40							
Thalassiosira sp. (tiny)				240	80	20	40	
Thalassiosira spp.					200	60	840	
Tintinnida	720	1600	2480	2400	840	220	560	1200
Unarmoured dinoflagellate	40	200	600	400	80		320	1240
17-Jul-01								
Alexandrium fundyense	28080	67840	31880	1420	400	20	400	7200
Alexandrium fundyense (cyst)			40	40		20		
Alexandrium fundyense (duplet)	720	1840	1320	80			80	240
Alexandrium fundyense (fusing)	80	80	160	20				40
Alexandrium fundyense (planozygote)	1360	5360	400	20	80			280
Alexandrium fundyense (quadruplet)	80	160	80					
Alexandrium fundyense (triplet)			160					120
Amphidinium carterae				80	160			
Apedinella radians					40			
Armoured dinoflagellate		960	1080	80	480	80	640	880
Asterionellopsis glacialis				40	80	60		
Brachionus spp.		80						80
Cerataulina pelagica			120		80		4800	
Ceratium arcticum			40					
Ceratium fusus	80	160						80
Ceratium lineatum	160	480		40				
Ceratium longipes	640	1200	880	360	240			720
Ceratium tripos		80						
Chaetoceros borealis				40				
Chaetoceros contortus	80		40	320	440			
Chaetoceros convolutus			40				80	
Chaetoceros convolutus f. *trisetosa*	160							
Chaetoceros debilis	80		120	40	360		3360	
Chaetoceros decipiens			40					
Chaetoceros radicans					280			
Chaetoceros simplex			40		40		320	
Chaetoceros socialis	2800		3760	5280	240			
Chaetoceros spp. (Hyalochaete)	640	400	600	11840	11040	560	6960	3120
Chaetoceros spp. (Phaeoceros)				80	200	20		
Chaetoceros teres			40				80	
Copepoda		80	40	80	120			160

17-Jul-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Corethron hystrix		80						
Coscinodiscus spp.				40			80	
Cylindrotheca closterium	1520	80	1280	4520	8440	1420	4880	120
Dactyliosolen fragilissimus					40	40	6800	160
Detonula confervacea	80						40	
Dictyocha speculum	1200	2080	520	200	120	20	3360	680
Dinophysis acuminata	1040	2400	1840	560	80	20	240	400
Dinophysis norvegica	240	560	200	160				160
Dinophysis pulchella					40			
Dinophysis spp.				40			80	
Ebria tripartita			120		80		80	120
Eutreptiella sp.	320	160		40				
Favella spp.								40
Gonyaulax digitale			40					40
Gonyaulax spinifera		480	280					240
Guinardia delicatula	720		800	560	840	40	156984	4240
Guinardia flaccida	80			40				
Gyrodinium spp.	80	960	40	120	200	20	720	80
Helicostomella spp.	320	720	120				3040	1520
Heterocapsa triquetra	37120	100880	13600	200	480	20	1120	44960
Laboea sp.	400	640	440	120			1360	280
Lauderia annulata			40					
Leptocylindrus danicus				80	80		80	
Leptocylindrus minimus	80				40		3040	80
Membraneis challengeri						20		
Mesodinium rubrum	6320	10160	1520	640	240		20080	15040
Navicula distans	80					20		
Navicula transitans var. *derasa* f. *delicatula*				40	40	60		
Parafavella spp.		80			40			
Paralia sulcata						20		
Pennate diatom		640					320	
Pleurosigma angulatum							80	
Polykrikos spp.								440
Protoperidinium bipes					40			
Protoperidinium brevipes	400	880	400	160	120			160
Protoperidinium spp.	80	560	160	80	80			280
Pseudo-nitzschia delicatissima group	3840		2800	68204	15120	1660	880	40
Pseudo-nitzschia seriata group						40	240	
Ptychocylis spp.	80	80						
Rhizosolenia imbricata					80		160	40
Rhizosolenia spp.					40			
Scrippsiella sp.		1200	240	40				360
Scrippsiella trochoidea	1360	2560	480					760
Skeletonema costatum	80				80		160	
Stephanopyxis turris				40				
Thalassiosira gravida							80	
Thalassiosira sp. (tiny)					40	20		
Thalassiosira spp.					40	20	1440	40
Tintinnida	1680	3040	2240	2200	880	40	3600	3000
Unarmoured dinoflagellate	720		40	280	200		3040	1320
24-Jul-01								
Alexandrium fundyense	400	140	1300	40				
Alexandrium fundyense (cyst)		20						
Alexandrium fundyense (duplet)			20					
Alexandrium fundyense (planozygote)	40	80	340					
Amphidinium carterae				80				
Amphidinium sphenoides				40				
Amylax triacantha	120	20					80	

24-Jul-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Apedinella radians				40				
Armoured dinoflagellate	120	500	320	840	120	20	240	160
Asterionellopsis glacialis							80	
Brachionus spp.		20	20					
Centric diatom					20	20		
Cerataulina pelagica	120	20				20	720	
Ceratium fusus		20	180	200	20			80
Ceratium kofoidii			20					
Ceratium lineatum	80	60	40	120				
Ceratium longipes	40	140	320	440	20			400
Ceratium tripos		40	60	80				80
Chaetoceros contortus		40	20					
Chaetoceros convolutus							80	
Chaetoceros debilis	40	160	60	40			2880	80
Chaetoceros decipiens							80	
Chaetoceros laciniosus		20					160	
Chaetoceros simplex	40	20			20		4160	80
Chaetoceros socialis	1520	220	480				720	
Chaetoceros spp. (Hyalochaete)	160	120	140	120	40	20	8240	80
Commation cryoporinum					20			
Copepoda	80	320	120	80		20		80
Corethron hystrix			20			20		
Cylindrotheca closterium	840	400	740	2560	3240	600	4720	160
Dactyliosolen fragilissimus	80		40		40	20	2320	80
Dictyocha speculum	480	420	620	1200	140	40	2400	2080
Dinophysis acuminata	320	180	460	400	60		160	1520
Dinophysis acuta			40					80
Dinophysis norvegica	80	20	220	240				80
Dinophysis pulchella			20					80
Ebria tripartita		40	80	320	60		80	160
Eutreptiella sp.	120	140	40	320	20			80
Favella spp.							80	
Gonyaulax digitale	40		20					
Gonyaulax spinifera	160	20	60					
Guinardia delicatula	5600	560	1000	3000	1020	480	16640	13440
Guinardia flaccida				40			80	
Gyrodinium spp.	80	60	140	120	40		1360	560
Helicostomella spp.	40	620	60				320	400
Heterocapsa triquetra	5560	4740	10160	120	20		800	8080
Laboea sp.	80		240	80			160	720
Lauderia annulata							80	
Leptocylindrus danicus		20						
Leptocylindrus minimus	120		60		60		9040	160
Licmophora spp.			20	40			80	
Mesodinium rubrum	4600	5880	6560	1320	40		7920	38640
Navicula distans	80					20	80	160
Parafavella spp.		20						
Paralia sulcata						20		
Pennate diatom				40				
Pleurosigma angulatum	120	20					80	
Prorocentrum minimum								80
Protoperidinium brevipes		40	20					
Protoperidinium depressum			20					
Protoperidinium punctulatum								160
Protoperidinium spp.	80	80	200	120	20		80	160
Pseudo-nitzschia delicatissima group	1440	1000	600	480	1120	540	7040	80
Pseudo-nitzschia seriata group	40						400	
Rhizosolenia hebetata f. *semispina*						20		

24-Jul-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Rhizosolenia imbricata					60		400	
Scrippsiella sp.	200	140	180					320
Scrippsiella trochoidea	80	20	60				80	
Skeletonema costatum	520	20	20	80			6320	
Stephanopyxis turris							80	
Thalassionema nitzschioides				80		40		
Thalassiosira nordenskioeldii				40				
Thalassiosira spp.				40	80		1360	
Tintinnida	1240	2000	500	6000	280	140	720	480
Unarmoured dinoflagellate	440	100	80	640	40		1040	1280
31-Jul-01								
Actinoptychus senarius	80							
Alexandrium fundyense	40	20	360					
Amylax triacantha			80					80
Armoured dinoflagellate	160	300	560				200	400
Asterionellopsis glacialis							160	80
Cerataulina pelagica	80							
Ceratium fusus		20						
Ceratium lineatum	20	40	320				40	240
Ceratium longipes	120	140	120				40	80
Ceratium spp.			80					
Ceratium tripos		40	40					
Chaetoceros convolutus								80
Chaetoceros convolutus f. *trisetosa*			40					80
Chaetoceros debilis	100						40	80
Chaetoceros decipiens								80
Chaetoceros laciniosus								320
Chaetoceros lorenzianus								80
Chaetoceros simplex	100	60	40				2440	2080
Chaetoceros socialis	20		120					80
Chaetoceros spp. (Hyalochaete)							160	400
Chaetoceros teres	20							
Copepoda	100	60					160	80
Corethron hystrix			40				40	80
Cylindrotheca closterium	540	420	400				5360	1520
Dactyliosolen fragilissimus	40		40				120	400
Dictyocha speculum	460	640	1960				2440	34560
Dinophysis acuminata	140	260	600				320	400
Dinophysis norvegica	40	40	560					80
Dinophysis pulchella			40					
Dinophysis spp.		20						
Ebria tripartita	100	140	560					480
Gonyaulax spinifera	20		80					
Guinardia delicatula	3180	3060	7000				1480	2160
Guinardia flaccida	40		280					
Gyrodinium spp.	120	120	640					
Helicostomella spp.	20	140					1480	1280
Heterocapsa triquetra	620	720	16800				120	14160
Laboea sp.	400	100	160				40	80
Leptocylindrus minimus	20						6720	3680
Mesodinium rubrum	5800	6240	4400				6200	29520
Navicula distans							40	
Pleurosigma angulatum							40	
Prorocentrum micans	20							
Protoperidinium bipes							80	
Protoperidinium brevipes	20	20	120					80
Protoperidinium spp.	20	60	160				40	80
Pseudo-nitzschia delicatissima group	300	400	360				4960	3600

31-Jul-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Pseudo-nitzschia seriata group							120	80
Rhizosolenia hebetata f. *semispina*								80
Rhizosolenia imbricata		40					400	1040
Rhizosolenia spp.							200	80
Scrippsiella sp.	40	40	120					80
Scrippsiella trochoidea	20		280				40	240
Skeletonema costatum	120	20					5640	2560
Thalassiosira oestrupii	20							
Thalassiosira sp. (tiny)	20							
Thalassiosira spp.	20		120				280	960
Tintinnida	520	520	1360				840	240
Unarmoured dinoflagellate	80	160	1480				120	560
7-Aug-01								
Actinoptychus senarius			40					
Alexandrium fundyense	560	80	80					
Amphidinium carterae				60	20	20		
Amylax triacantha	80	80	40				289	160
Armoured dinoflagellate	2400	240	160	60	20	60	1445	1760
Asterionellopsis glacialis	40	40		20			289	80
Centric diatom						40		
Cerataulina pelagica	160			40				80
Ceratium fusus	40		120	20				320
Ceratium horridum				40				
Ceratium lineatum	40	200	160	80				1200
Ceratium longipes	80		120	80				240
Ceratium tripos			160	20				
Chaetoceros contortus		40						80
Chaetoceros debilis	40	80		20				
Chaetoceros filiformis							867	
Chaetoceros laciniosus								240
Chaetoceros lorenzianus								800
Chaetoceros simplex	80		120	120		20	9248	560
Chaetoceros socialis	400	40						
Chaetoceros spp. (Hyalochaete)	280		40		20		1156	1040
Chaetoceros spp. (Phaeoceros)								80
Chaetoceros teres								400
Commation cryoporinum					40			
Copepoda	120	160		60				
Corethron hystrix	40				20	20	578	320
Cylindrotheca closterium	360	320	320	1220	1240	1020	13872	880
Dactyliosolen fragilissimus					20	60	4046	
Dictyocha speculum	360	640	960	500	360	40	5780	38800
Dinophysis acuminata	200	200	1200	180	20		289	3440
Dinophysis acuta								320
Dinophysis norvegica	80		600	340	20			560
Dinophysis spp.	40							
Ditylum brightwellii					20			
Ebria tripartita	160	200	440	160	140		2023	6560
Eutreptiella sp.	320	80		40	40			80
Fragilaria spp.	40							
Gonyaulax digitale	80							
Gonyaulax spinifera	120	440		40			289	
Guinardia delicatula	9960	680	720	1160	500	500	1156	720
Guinardia flaccida				20		20		
Gyrodinium spp.	40	200	160	240	40			
Helicostomella spp.	200	960	200	20			578	2560
Heterocapsa triquetra	240	160	320	20			867	160
Laboea sp.	1360	240	640	600			289	880

7-Aug-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Lauderia annulata							289	480
Leptocylindrus danicus							2023	240
Leptocylindrus minimus	40		80		20		8092	240
Mesodinium rubrum	10720	10600	5120	1260	160	20	22831	45952
Navicula distans						20		
Navicula transitans var. *derasa* f. *delicatula*					20	20		
Paralia sulcata		40				20		
Pennate diatom				40			867	
Pleurosigma / Gyrosigma								80
Pleurosigma angulatum	160							240
Polykrikos spp.		40						
Prorocentrum minimum		40						
Protoperidinium brevipes						40		80
Protoperidinium punctulatum								240
Protoperidinium spp.	200	120	40	140	20		289	240
Pseudo-nitzschia delicatissima group	1360	2000	3800	2340	1420	680	129472	76872
Pseudo-nitzschia seriata group								3200
Rhizosolenia imbricata		40		60			4624	6400
Scrippsiella sp.	520		120					
Scrippsiella trochoidea	40	40						80
Skeletonema costatum	360	400	120	60	20		103462	7280
Thalassionema nitzschioides					40	20		
Thalassiosira oestrupii			120					
Thalassiosira sp. (tiny)							3757	
Thalassiosira spp.	40	80		20	40		7225	240
Tintinnida	2040	1080	1000	440	240	140	3179	880
Unarmoured dinoflagellate	1920	760	480	640	80	80	1156	320
14-Aug-01								
Alexandrium fundyense	40	80			20			40
Alexandrium fundyense (planozygote)					20			
Amphidinium carterae				20				
Amylax triacantha	200							80
Armoured dinoflagellate	840	2000	200	60	20	80	1440	560
Asterionellopsis glacialis		80			80	80	640	40
Centric diatom			80		40			
Cerataulina pelagica	240						1120	
Ceratium fusus				20				
Ceratium horridum				40				40
Ceratium lineatum	280	160	80					520
Ceratium longipes	40	240						
Ceratium tripos			80	20				80
Chaetoceros contortus	40	80		20			160	920
Chaetoceros debilis	160	480		20			160	
Chaetoceros decipiens							320	200
Chaetoceros didymus							160	
Chaetoceros laciniosus		160		40			800	840
Chaetoceros lorenzianus	80						800	
Chaetoceros simplex	280	1840		100	60	40	4000	200
Chaetoceros socialis		1200		20			160	40
Chaetoceros spp. (Hyalochaete)	200	160	40	100		20	1920	560
Chaetoceros teres								40
Commation cryoporinum					80	20		
Copepoda	80	80		20			160	80
Corethron hystrix	120		80	100	80	40	160	40
Coscinodiscus spp.				20				
Cylindrotheca closterium	240	960	80	900	1700	920	3520	160
Dactyliosolen fragilissimus	40		40	20	40	20	2720	80
Dictyocha speculum	2880	1760	720	1000			3040	1880

14-Aug-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Dinophysis acuminata	240	720		180	40	20	320	200
Dinophysis norvegica	160	160		180			160	40
Dinophysis pulchella	40							
Dinophysis spp.			80	20				40
Ditylum brightwellii			40	40				
Ebria tripartita	680	1600	80	740	20		1600	680
Eucampia zodiacus					20			
Eutreptiella sp.	560		40	120			160	
Favella spp.								40
Gonyaulax digitale								280
Gonyaulax spinifera	80	240						80
Grammatophora spp.		80						
Guinardia delicatula	5480	2560	1040	1520	180	260	160	
Guinardia flaccida				60				
Gyrodinium spp.	120			200	60	80	160	200
Helicostomella spp.	40	240					640	1040
Heterocapsa triquetra	200	320	40	100	20		320	400
Laboea sp.	440		80	260			160	80
Lauderia annulata							320	80
Leptocylindrus danicus				20			17120	7360
Leptocylindrus minimus	120	320	160		40	20	2880	40
Licmophora spp.		560						
Mesodinium rubrum	41040	4240	8360	240	20		18720	7320
Navicula distans					20			
Navicula transitans var. *derasa* f. *delicatula*			40	20				
Paralia sulcata			40					
Pennate diatom	40	80	40		40		320	
Pleurosigma / Gyrosigma	40							
Pleurosigma angulatum	240							
Pleurosigma strigosum	40							40
Prorocentrum minimum	40							
Protoperidinium brevipes		80						
Protoperidinium depressum	40							
Protoperidinium punctulatum	80			20				
Protoperidinium spp.	120	160		40	40	80		120
Pseudo-nitzschia delicatissima group	8760	58000	15680	22760	9280	2740	3360	480
Pseudo-nitzschia seriata group							3200	2320
Rhizosolenia hebetata f. *semispina*								40
Rhizosolenia imbricata	40	80	160	100	20	60	3840	840
Rhizosolenia setigera								40
Rhizosolenia spp.	40			200			2560	1280
Salpingella spp.					20			
Scrippsiella sp.	40	480	40					320
Scrippsiella trochoidea								40
Skeletonema costatum	13720	160320	880	220	160		6240	640
Thalassionema nitzschioides				120	60	20		
Thalassiosira sp. (tiny)			40		40		160	
Thalassiosira spp.	200		80	660	100	20	1440	40
Tintinnida	1120	480	360	320	80	300	2240	1800
Unarmoured dinoflagellate	680	320	40	260	60	20	480	240
21-Aug-01								
Actinoptychus senarius						60		
Alexandrium fundyense			120	40	20			80
Amphidinium sphenoides						20		
Amylax triacantha				40				
Armoured dinoflagellate	280		400	200	40	20	193	800
Asterionellopsis glacialis					20	100		
Aulacoseira ambigua				40				

21-Aug-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Biddulphia alternans						20		
Centric diatom		40				20		
Cerataulina pelagica	80	80	40				965	240
Ceratium fusus	80	120		80	20			240
Ceratium lineatum	160		40	120	40	20	193	1520
Ceratium longipes	240	200	40	80	20	20		80
Ceratium tripos	40			40	20			80
Chaetoceros contortus				40	20	20	193	
Chaetoceros convolutus f. *trisetosa*		40	40					
Chaetoceros danicus			40					
Chaetoceros debilis		80		120		40		
Chaetoceros decipiens								80
Chaetoceros laciniosus								80
Chaetoceros lorenzianus	40					20	193	
Chaetoceros radicans						20		
Chaetoceros simplex	80	80			80	20	965	80
Chaetoceros socialis	240	440						
Chaetoceros spp. (Hyalochaete)	120	200	120	120	140	60	193	320
Commation cryoporinum					20	60		
Copepoda	40	80	40	160				80
Corethron hystrix	80	80	120	120	100	40	193	240
Coscinodiscus spp.					20	20		
Cylindrotheca closterium	360	320	400	600	1500	500	579	240
Dactyliosolen fragilissimus	80	280	200	400	100	420	2316	160
Detonula confervacea		40						
Dictyocha speculum	640	320	440	1400	360	20	965	3520
Dinophysis acuminata	200	40	40	240	20		965	720
Dinophysis norvegica		80		120	20			
Dinophysis pulchella				120	60			
Ditylum brightwellii	320		520	360	100	20	386	
Ebria tripartita	200	40	120	320	80	120	965	480
Eucampia zodiacus								80
Eutreptiella sp.		40	40	680	120		1351	80
Gonyaulax digitale	80	40						
Gonyaulax spinifera			200					
Guinardia delicatula	88436	91852	63460	66472	69360	53176	965	6960
Guinardia flaccida	320				60			80
Gyrodinium spp.	80	40	160	360	120	20	386	160
Helicostomella spp.	80	40		40				640
Heterocapsa triquetra	80							
Laboea sp.	320	200	200	480			579	240
Lauderia annulata							579	
Leptocylindrus danicus	3160	400		320	140	100	92061	60112
Leptocylindrus minimus	240	200	280	80	60		2123	320
Licmophora spp.	40					20		
Mesodinium rubrum	1520	1280	5840	920	100	80	13896	36704
Navicula distans		80			20			
Navicula transitans var. *derasa* f. *delicatula*				80	40	40		
Paralia sulcata	40							
Pennate diatom		40			20			
Pleurosigma / Gyrosigma				40	40			
Pleurosigma angulatum	160	80						400
Proboscia alata						40		80
Prorocentrum minimum					40			
Protoperidinium conicum					20			80
Protoperidinium depressum				80				
Protoperidinium spp.		40		80	20	20		
Pseudo-nitzschia delicatissima group	880	160	480	680	2940	1220		80

21-Aug-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Pseudo-nitzschia seriata group			280	40		80	13317	240
Rhizosolenia hebetata f. *semispina*	80				20		193	
Rhizosolenia imbricata	280		40	40	180	840	193	1280
Rhizosolenia setigera		80			20	20	193	
Rhizosolenia spp.	160	440			40	120	14475	
Scrippsiella sp.			40	40				
Scrippsiella trochoidea	80		40				193	1040
Skeletonema costatum	7360	1400	200	240	400	220	386	240
Thalassionema nitzschioides					40	40		
Thalassiosira anguste-lineata				160				
Thalassiosira gravida	80			120				
Thalassiosira oestrupii								80
Thalassiosira punctigera						20		
Thalassiosira sp. (tiny)					20			
Thalassiosira spp.	560	400	440	1640	1700	20		
Tintinnida	40	240		600	140	160	386	320
Unarmoured dinoflagellate	40	120	280	360	140	100	386	
28-Aug-01								
Actinoptychus senarius					20			
Alexandrium fundyense	200		220	20				
Alexandrium fundyense (duplet)			20					
Amylax triacantha								120
Armoured dinoflagellate	240	320	660	80	20	120	772	1400
Asterionellopsis glacialis					20			
Centric diatom	120		20				193	40
Cerataulina pelagica	80	40		20				120
Ceratium fusus	120					20		200
Ceratium lineatum	160	80						3120
Ceratium longipes	120			20		20		120
Ceratium tripos							193	120
Chaetoceros debilis	120							
Chaetoceros decipiens							386	
Chaetoceros laciniosus							193	160
Chaetoceros simplex			20	60	40			40
Chaetoceros spp. (Hyalochaete)	40	160		20	20		193	200
Chaetoceros teres	40							
Commation cryoporinum			60	60		20		
Copepoda		40		20		20	579	280
Corethron hystrix	200	400	220	100	120	60	193	240
Coscinodiscus spp.			20	80	20	20		
Cylindrotheca closterium	320	480	300	1080	900	740	193	
Cylindrotheca gracilis	40							
Dactyliosolen fragilissimus	160	400	60	20	160		5211	80
Dictyocha speculum	1080	1920	180	60	80	20	1158	6440
Dinophysis acuminata	320	160	20			40		1400
Dinophysis norvegica	40							160
Dinophysis spp.	40							
Ditylum brightwellii	120	80	20	60		40	193	
Ebria tripartita	320	400	40	40	60		386	2320
Eucampia zodiacus	120	40						
Eutreptiella sp.	40	120			20			160
Gonyaulax spinifera		200						40
Gonyaulax spp.		120						
Guinardia delicatula	280	320	80	20	120	140	1737	480
Guinardia flaccida	400		80				193	80
Gyrodinium spp.	40		40	40	100	40	1158	320
Helicostomella spp.	160	80					1351	1200
Heterocapsa triquetra		120						

28-Aug-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Laboea sp.	80		20	20			1158	40
Lauderia annulata	40						386	120
Leptocylindrus danicus	11560	6000	40	60	160	340	200334	415000
Leptocylindrus minimus	80	40	20		40	80	772	120
Licmophora spp.		40						
Mesodinium rubrum	5560	1240	60		20	20	91482	22160
Navicula transitans var. *derasa* f. *delicatula*					20	20		
Pennate diatom	80	160	20	20	20		193	
Pleurosigma / Gyrosigma				20				
Pleurosigma angulatum	120							
Pleurosigma strigosum	120				20	20		
Polykrikos spp.			120					
Proboscia alata								80
Protoperidinium depressum								40
Protoperidinium spp.				20	20		193	120
Pseudo-nitzschia delicatissima group	200	400	2180	4400	4760	3600		40
Pseudo-nitzschia seriata group	80	40	20		20		7334	400
Rhizosolenia hebetata f. *semispina*	80	40					193	40
Rhizosolenia imbricata	160	80			60	80	2316	760
Rhizosolenia setigera	120						386	200
Rhizosolenia spp.		80		20				40
Scrippsiella sp.		560						
Scrippsiella trochoidea	320		160				965	4840
Skeletonema costatum	40	80	160	100	60	80		
Thalassionema nitzschioides	40			60	60	80		40
Thalassiosira gravida						20		
Thalassiosira oestrupii								80
Thalassiosira sp. (tiny)			40	120				
Thalassiosira spp.			40	20		40		
Tintinnida	600	920	20	80	120	120	1544	400
Unarmoured dinoflagellate	320	200	100	20	40	60		80
4-Sep-01								
Actinoptychus senarius	240			640	80	120		
Amylax triacantha								80
Armoured dinoflagellate	160	80	320	160	160		320	480
Asterionellopsis glacialis	560	480	80	1600	560	40		
Aulacoseira ambigua					40	20		
Centric diatom		320			120	40		80
Cerataulina pelagica	1120	80	240			20	400	
Ceratium fusus			120	160				320
Ceratium lineatum		80	200				960	4000
Ceratium longipes			160					80
Ceratium tripos	160	240	120		40			240
Chaetoceros contortus		160	40					
Chaetoceros decipiens	160							
Chaetoceros laciniosus							80	
Chaetoceros lorenzianus					40			
Chaetoceros simplex	240	160	120	960	200	40	960	160
Chaetoceros socialis			800					
Chaetoceros spp. (Hyalochaete)	80	400	120	160	120		240	320
Commation cryoporinum				240	120	20		
Copepoda	160	320		240			80	
Corethron hystrix	160	480	40	480	240	60	640	240
Coscinodiscus spp.						20		
Cylindrotheca closterium	1520	1600	1080	5920	3360	1260	80	80
Dactyliosolen fragilissimus	160		280			40	160	
Detonula confervacea	160		40			20		
Dictyocha speculum	400	400	360	560	240	20	160	5200

4-Sep-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Dinophysis acuminata		80		240		20		480
Dinophysis norvegica				80				80
Dinophysis pulchella					40			
Dinophysis spp.		80						
Ditylum brightwellii	80	320	120	240	40	20	160	80
Ebria tripartita	80	320	200	880	520	20	80	720
Eucampia zodiacus								240
Eutreptiella sp.	240	80	40	960	360		80	80
Gonyaulax spinifera			40					
Guinardia delicatula	160	320	80	80	200	140	560	240
Guinardia flaccida							80	640
Gyrodinium spp.				80	160		80	240
Helicostomella spp.			40				80	160
Helicotheca tamesis					40			
Heterocapsa triquetra	80		40					
Laboea sp.	80	80	80	320			640	
Lauderia annulata							560	80
Leptocylindrus danicus	12400	1200	1240	8800	21960	4400	626248	829992
Leptocylindrus minimus		80	200	80	40		480	
Licmophora spp.		240						
Mesodinium rubrum	3120	11840	1800	560			15760	11440
Navicula distans						40	80	
Navicula transitans var. *derasa* f. *delicatula*					120			
Notholca spp.						40		
Paralia sulcata						40		
Pennate diatom	320	400	120	880	160	20	80	
Pleurosigma / Gyrosigma					40	40		
Pleurosigma angulatum	240	80				40		
Pleurosigma strigosum				80				
Polykrikos spp.	80						80	
Proboscia alata			40					80
Prorocentrum micans		80					80	
Prorocentrum minimum	80	80						
Protoperidinium bipes				80				
Protoperidinium spp.			240	80	40			800
Pseudo-nitzschia delicatissima group	5120	480	2520	25440	7640	4720	160	80
Pseudo-nitzschia seriata group					40	20		80
Rhizosolenia hebetata f. *semispina*							400	
Rhizosolenia imbricata							800	
Rhizosolenia setigera	240				40		480	
Rhizosolenia spp.							1040	240
Scrippsiella sp.			40					
Scrippsiella trochoidea	400	160	80	160			960	15120
Skeletonema costatum	1600	5520	4160	8160	3560	60		
Thalassionema nitzschioides		160		80	40	40		
Thalassiosira baltica					40			
Thalassiosira oestrupii			40					
Thalassiosira punctigera				80				
Thalassiosira sp. (tiny)		960		3600	920	240		
Thalassiosira spp.	400	240	680	4960	1160	20	320	
Tintinnida	160	560	320	640	120	40	1280	480
Tintinnopsis campanula								80
Unarmoured dinoflagellate	320	400	440	320	160	20	400	80
13-Sep-01								
Actinoptychus senarius		578			772	640		640
Amylax triacantha								320
Armoured dinoflagellate	578			2312	579	80	1040	8640
Asterionellopsis glacialis	11849	36414	16184	43350	11580	1160	80	160

13-Sep-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Cerataulina pelagica		1734	578	1156	772	40	320	160
Ceratium fusus		578						160
Ceratium lineatum	289	1734	4624				1840	14240
Ceratium longipes				578				160
Ceratium tripos	578			1734		40	160	160
Chaetoceros contortus	578	2890	2312	1734	579		80	
Chaetoceros debilis	289		2890				80	
Chaetoceros decipiens			1156					
Chaetoceros laciniosus							80	
Chaetoceros lorenzianus		1156		1734				320
Chaetoceros radicans				578	193			
Chaetoceros similis		578						
Chaetoceros simplex	1734	2312	2312	5202	193	40	640	1440
Chaetoceros spp. (Hyalochaete)	1156	3468	2312	6358	193	200	800	1280
Chaetoceros spp. (Phaeoceros)				578				
Chaetoceros subtilis				578				
Commation cryoporinum						80		
Copepoda	578							320
Corethron hystrix	867		578		193	40	560	320
Coscinodiscus spp.							240	
Cylindrotheca closterium	8381	1156	1734	13872	12738	1320	240	960
Dactyliosolen fragilissimus		1734	1734	578	4053	120	15200	640
Dictyocha speculum	1156	2312	578	3468			800	6560
Dinophysis acuminata							160	3840
Dinophysis norvegica		578		578				480
Dinophysis pulchella		2312						
Ditylum brightwellii	1156	2890	3468	6936	965	80	320	
Ebria tripartita	1734	1734	2890	4624		120		1760
Eucampia zodiacus				578			160	800
Eutreptiella sp.	1445	1156	1734					
Gonyaulax digitale								160
Gonyaulax spinifera								320
Guinardia delicatula	1156	2312	1734		193	120	2240	480
Guinardia flaccida					193		160	1280
Gyrodinium spp.			1734	2312		40	480	160
Helicostomella spp.							80	1280
Heterocapsa triquetra		578						
Laboea sp.	867			578			480	
Lauderia annulata							480	160
Leptocylindrus danicus	72539	143344	104618	84388	12738	3120	43680	397440
Leptocylindrus minimus	578		1734	578	386		160	
Melosira spp.	289							
Mesodinium rubrum	4046	10404	4046	1156	386	80	13440	35200
Pennate diatom	578		578		579			
Pleurosigma / Gyrosigma	578					120		
Pleurosigma strigosum	289			578	965		160	320
Polykrikos spp.							80	
Proboscia alata							80	
Prorocentrum micans								160
Prorocentrum minimum	289		1734					
Protoperidinium bipes	289			578	193	40		
Protoperidinium ovatum								320
Protoperidinium spp.		2312	578	1156	386		320	1280
Pseudo-nitzschia delicatissima group	43928	197098	145656	131784	61374	8160	320	800
Pseudo-nitzschia seriata group			7514					160
Rhizosolenia imbricata			578			80	160	160
Rhizosolenia setigera							80	
Rhizosolenia spp.							160	320

13-Sep-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Scrippsiella sp.			1156					
Scrippsiella trochoidea			3468	2312			960	11200
Skeletonema costatum	41038	202300	116178	195942	41302	4960	320	
Thalassionema nitzschioides					579	120	160	320
Thalassiosira anguste-lineata				578				
Thalassiosira sp. (tiny)	289	12138		26588	11194	440	80	
Thalassiosira spp.	14450	32946	28322	46240	5790	720	320	
Tintinnida	2312	4046	1156	1156	579	80	1040	
Unarmoured dinoflagellate	289	9826	4624	1734	193	40	480	800
18-Sep-01								
Actinoptychus senarius				1156			80	
Alexandrium fundyense			160					
Amphidinium carterae			80					
Amphidinium sphenoides				289	768			
Armoured dinoflagellate	160	320	1920		576		120	460
Asterionellopsis glacialis	21840	64736	7120	25432	29088	6400	40	200
Centric diatom							40	
Cerataulina pelagica	560	320	480	867		40	400	
Ceratium fusus	80	160						20
Ceratium lineatum	720	480	720		192		520	580
Ceratium longipes		160						
Ceratium tripos	80		160					40
Chaetoceros constrictus		1120						140
Chaetoceros contortus	560	3200	1200	1445	384	40		
Chaetoceros debilis	2560	2720	1600	867	192			40
Chaetoceros decipiens	80						160	20
Chaetoceros diadema		320				80		
Chaetoceros didymus	80							
Chaetoceros laciniosus			80				40	20
Chaetoceros lorenzianus							40	
Chaetoceros radicans					192			
Chaetoceros simplex	240	320		289	192	280	280	60
Chaetoceros socialis	720	800						
Chaetoceros spp. (Hyalochaete)	1760	2400	1040	3179	2304	160	800	140
Commation cryoporinum	80			289		80		
Copepoda	160	160	160					
Corethron hystrix	160		80				200	
Cylindrotheca closterium	1440	1600	400	7803	8256	760	560	320
Dactyliosolen fragilissimus	960	160			4992	440	3200	
Detonula confervacea	1200							
Dictyocha speculum	480	960	400	1156	960	80	200	400
Dinophysis acuminata	80	320	80				40	180
Dinophysis norvegica	160		80					
Ditylum brightwellii	12080	15200	35840	22253	8832	1200	120	240
Ebria tripartita	240	800	320		576		120	480
Eucampia zodiacus			160				40	
Eutreptiella sp.			80				360	20
Fragilaria spp.	80							
Gonyaulax spp.								500
Grammatophora marina								20
Guinardia delicatula	480	960	720	2890	1344	160	880	
Guinardia flaccida	160	160	80				1280	120
Guinardia striata	80	160		289				
Gyrodinium spp.	320	800	2160	578	1344		80	
Gyrosigma fasciola	80							
Helicostomella spp.	240						40	60
Helicotheca tamesis	80							
Heterocapsa triquetra	160		560					

18-Sep-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Laboea sp.	320		160				280	20
Lauderia annulata				289			360	
Leptocylindrus danicus		160	2480	3179	384			
Leptocylindrus mediterraneus							40	
Leptocylindrus minimus	400	960	320	867				
Mesodinium rubrum	3040	18560	2000	867		200	6920	360
Navicula distans	80					40	40	
Navicula transitans var. *derasa* f. *delicatula*				1156				
Notholca spp.						200		
Odontella sinensis	80	160						
Paralia sulcata						40		
Pennate diatom			80	867	192		400	
Pleurosigma / Gyrosigma	80	160		289	384	40		120
Pleurosigma angulatum	160							
Pleurosigma strigosum	240		160				40	20
Polykrikos spp.			80					
Prorocentrum micans			80				40	700
Prorocentrum minimum				578				
Protoperidinium bipes				289			40	
Protoperidinium spp.	160	320	560	289	192		80	60
Pseudo-nitzschia delicatissima group	54912	118496	136944	97682	57024	20240	120	540
Pseudo-nitzschia seriata group	400	320				80	40	
Rhizosolenia imbricata	160		240				880	
Rhizosolenia setigera	320						320	
Rhizosolenia spp.	80					40	520	
Scrippsiella sp.			320					
Scrippsiella trochoidea	160	160	1440	578			80	140
Skeletonema costatum	35280	18400	63000	76874	31104	11400	200	880
Thalassionema nitzschioides	80		80	289	1536	80	80	40
Thalassiosira anguste-lineata				289				
Thalassiosira gravida	160							
Thalassiosira nordenskioeldii							40	
Thalassiosira oestrupii	80		80					100
Thalassiosira sp. (tiny)	2240	3040		4913	2880	120		40
Thalassiosira spp.	1360		6400	23120	14976	1520	200	20
Tintinnida	320		160	1156	384	40	400	300
Unarmoured dinoflagellate	160	480	2560	1156	192		80	20
24-Sep-01								
Actinoptychus senarius	480	640		400		1760	160	
Amphidinium sphenoides		160	320	800	960			
Armoured dinoflagellate	160	320	960			80	80	960
Asterionellopsis glacialis	39360	220448	32480	187848	73440	22240	160	80
Biddulphia alternans						240		
Centric diatom							40	160
Corataulina pelagica	1440	1280	480	400	1440	80		
Ceratium fusus				80	160		80	400
Ceratium lineatum	3360	1280	4160	80	160		2280	32160
Ceratium longipes	160						40	160
Ceratium spp.								160
Ceratium tripos	160		320	80	160		40	80
Chaetoceros constrictus	160							
Chaetoceros contortus		160						
Chaetoceros debilis	2720	11360	4960	3840	2400	160		
Chaetoceros decipiens	640		160					
Chaetoceros laciniosus			480		160			
Chaetoceros lorenzianus		160				80	40	
Chaetoceros radicans					320			
Chaetoceros similis				80				

24-Sep-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Chaetoceros simplex			160					
Chaetoceros socialis		4000	4160					
Chaetoceros spp. (Hyalochaete)	480	3360	6240	1840	1600	160	280	
Copepoda		480					120	240
Corethron hystrix	160	160		80			160	
Cylindrotheca closterium	2720	480	160	2480	9120	3760	480	
Dactyliosolen fragilissimus	480	320		400			120	
Detonula confervacea			480					
Dictyocha speculum	1440			480	640	80	600	3520
Dinophysis acuminata	320			80				4800
Dinophysis norvegica		160					40	560
Dinophysis pulchella				80				
Dinophysis spp.								80
Ditylum brightwellii	8800	22080	34240	12720	14240	3760	200	
Ebria tripartita	320	160	320		320		40	960
Eucampia zodiacus	160						360	
Eutreptiella sp.	960		320	640	160			80
Gonyaulax spinifera							120	
Guinardia delicatula	800	640	160	80	800	400	520	
Guinardia flaccida			320			80	2160	880
Guinardia striata	160	320			160			
Gyrodinium spp.	320	160	1120		480	80	120	160
Helicostomella spp.	160						40	160
Helicotheca tamesis				240		80		
Heterocapsa triquetra		480	480	80				
Laboea sp.	160			160			160	240
Lauderia annulata							40	80
Leptocylindrus danicus		160	1920	800	1120	400	40	
Leptocylindrus minimus	640	800	800		320			
Licmophora spp.		320						
Melosira spp.							80	
Mesodinium rubrum	14880	3840	4640	240			1760	20160
Navicula distans	160					80		
Paralia sulcata					160			
Pennate diatom	480			160	160	480	80	
Pleurosigma / Gyrosigma			160					
Pleurosigma angulatum								80
Pleurosigma strigosum	160				160	480	120	160
Polykrikos spp.							120	
Preperidinium meuneri				80				
Prorocentrum micans		160	160					80
Prorocentrum minimum	160							
Protoperidinium spp.	320	320	960				40	400
Pseudo-nitzschia delicatissima group	20480	125424	188704	192048	46560	20960	680	
Pseudo-nitzschia seriata group			320	160	160	800	40	
Rhizosolenia imbricata							840	
Rhizosolenia setigera	320						320	
Rhizosolenia spp.							240	
Scrippsiella sp.		160						
Scrippsiella trochoidea	160		160	80			280	2800
Skeletonema costatum	2080	5280	2880	2560	9440	1360		80
Tabellaria spp.							40	
Thalassionema nitzschioides		160	160	480	960	640	40	
Thalassiosira anguste-lineata		960	160	160	320	80		
Thalassiosira baltica					320			
Thalassiosira gravida			160	160				
Thalassiosira oestrupii							40	
Thalassiosira sp. (tiny)		480	160	2560	12000	960		

24-Sep-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Thalassiosira spp.	800	160	800	720	2400	2320	40	
Tintinnida	320		160	160	320	80	600	
Tintinnopsis campanula								80
Unarmoured dinoflagellate	480	160	480	80		160	40	
2-Oct-01								
Actinoptychus senarius	640		240	920	200	480		80
Alexandrium fundyense								80
Amphidinium carterae				40		40		
Amphidinium sphenoides		80	40	680	200	280		
Armoured dinoflagellate	160	400	560	200			60	80
Asterionellopsis glacialis	127160	67048	44508	36080	21120	11720	80	40
Biddulphia alternans				40				
Centric diatom						40	20	200
Cerataulina pelagica	160	160	200	360	200		100	
Ceratium fusus			40	80	40		20	40
Ceratium lineatum	320	320	1720	1360	760		660	5760
Ceratium longipes							20	
Ceratium tripos			120		40			120
Chaetoceros contortus		80						
Chaetoceros debilis	2160	11520	2000	880	640		20	
Chaetoceros decipiens							20	
Chaetoceros lorenzianus							20	
Chaetoceros pseudocrinitus			200					
Chaetoceros radicans				160		80		
Chaetoceros similis							140	
Chaetoceros simplex								80
Chaetoceros socialis		400						
Chaetoceros spp. (Hyalochaete)	800	4480	400	520	120	160	40	80
Commation cryoporinum					80	120		
Copepoda			40		80	40		40
Corethron hystrix	160			80			120	
Coscinodiscus spp.				80	40			
Cylindrotheca closterium	800	640	280	5160	4080	1360	500	160
Dactyliosolen fragilissimus	80		80	560	240	80	20	
Dictyocha speculum	320		360	600	240	80	200	4560
Dinophysis acuminata				120			40	320
Ditylum brightwellii	160		160	160	240	160	40	
Ebria tripartita		80		40	40	40		320
Eucampia zodiacus							640	
Eutreptiella sp.	160			560	80		80	
Gonyaulax spinifera			40					
Grammatophora marina							20	
Guinardia delicatula	400	80	480	120	320	80	760	160
Guinardia flaccida			40	40	40		120	1000
Guinardia striata		160	160	160				
Gyrodinium spp.			40	120	120		100	
Helicostomella spp.	160		80					
Heterocapsa triquetra		240	160	80				
Laboea sp.	240	80	120	40			240	
Lauderia annulata							20	
Leptocylindrus danicus	240	160	1640	40	680	440	20	
Leptocylindrus minimus	320	3360	200	160	40			40
Licmophora spp.							20	
Membraneis challengeri					40	40		
Mesodinium rubrum	12400	5440	9000	480	200		1420	12280
Navicula distans	80				40		20	
Notholca spp.							20	
Odontella sinensis			120	80		40		

2-Oct-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Paralia sulcata					80			
Pennate diatom				80	40	40	120	
Pleurosigma / Gyrosigma		320		80	80	80		
Pleurosigma angulatum				80				40
Pleurosigma strigosum							60	
Polykrikos spp.	80		160					
Prorocentrum micans			120		40			
Prorocentrum minimum			40					160
Prorocentrum sp. (small)				40				
Protoperidinium conicum		80	80					
Protoperidinium punctulatum			120					
Protoperidinium spp.				40				40
Pseudo-nitzschia delicatissima group	2080	1120	240	1760	2280	5400	300	
Pseudo-nitzschia seriata group	720	800	40	120	40	200		
Rhizosolenia imbricata	480	80	80		120		340	
Rhizosolenia setigera	80				40		300	40
Rhizosolenia spp.	160						320	
Scrippsiella sp.		240						
Scrippsiella trochoidea		80	120	40				760
Skeletonema costatum	240		160		200		60	
Thalassionema nitzschioides	640	400	680	1200	640	760	40	80
Thalassiosira punctigera					40	40		
Thalassiosira sp. (tiny)	80	160	640	2440	520	440		
Thalassiosira spp.	480		40	80	320	240	100	
Tintinnida	480	160	680	160	280	160	60	40
Tintinnopsis campanula								80
Unarmoured dinoflagellate	80		40	120		120	20	40
15-Oct-01								
Actinoptychus senarius	4160	1920	120	2320	2601	1200	480	760
Alexandrium fundyense								80
Amphidinium carterae				240				
Amphidinium sphenoides				400	867			
Amylax triacantha								80
Armoured dinoflagellate	80	160	160	480	578		80	40
Asterionellopsis glacialis	80920	81496	48000	160320	173400	12640	80	920
Biddulphia alternans	320					40		
Centric diatom	160	80				40	160	
Cerataulina pelagica		80	120		289		560	
Ceratium fusus	80						240	
Ceratium lineatum	2400	2560	1600	4480	1445	40	19680	26012
Ceratium spp.							80	
Ceratium tripos	80	160		160				40
Chaetoceros contortus			40					
Chaetoceros debilis	1520	1920	520	2720		40	240	200
Chaetoceros decipiens		80						40
Chaetoceros lorenzianus							80	
Chaetoceros radicans				80	867			
Chaetoceros similis							80	
Chaetoceros spp. (Hyalochaete)	1600	1040	200	720	3757	120	160	40
Copepoda				320			160	120
Corethron hystrix		80					80	
Coscinodiscus spp.		320			289	80		40
Cylindrotheca closterium	4320	1040	1600	9280	17340	3360	560	880
Dactyliosolen fragilissimus	640	480	160	160	2023	520	80	
Detonula confervacea	1440							280
Dictyocha speculum	2240	720	1040	16960	6936	120	30720	75140
Dinophysis acuminata	240		280	640	289		480	1440
Dinophysis norvegica			40					40

15-Oct-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Dinophysis pulchella				80				
Ditylum brightwellii	240						160	
Ebria tripartita	80		40	240			80	
Eucampia zodiacus							320	440
Eutreptiella sp.	160		480	400	867	40	240	40
Guinardia delicatula	1040	880	240	960	1445	80	13600	800
Guinardia flaccida	240	560	80	480	1445		80	40
Guinardia striata	2800	1680	760	2160	2601	120		
Gyrodinium spp.	160		80	80	289		80	80
Gyrosigma tenuissimum				80				
Helicostomella spp.			40					80
Helicotheca tamesis			40			40		
Heterocapsa triquetra			120	80	289			
Laboea sp.	240	80	40	720			80	440
Leptocylindrus danicus	1280	6160	7080	17760	26588	720		80
Leptocylindrus mediterraneus			40					
Leptocylindrus minimus	1520	10800	560	1680	5780	440		280
Mesodinium rubrum	10640	9680	4320	1120		240	9760	14160
Navicula distans	160							
Navicula transitans var. *derasa* f. *delicatula*				160	578	80		
Odontella sinensis	560	480	80	480	867	80		
Paralia sulcata		80		80				
Pennate diatom	160	80					160	40
Pleurosigma / Gyrosigma							160	
Pleurosigma angulatum	160						80	
Pleurosigma strigosum	240		80	80		80		
Prorocentrum micans	80							
Protoperidinium spp.			40	160				
Pseudo-nitzschia delicatissima group	160	80		80	578	320	80	40
Pseudo-nitzschia seriata group	480	160	80	80	867		80	80
Rhizosolenia imbricata	80	240		240			960	
Rhizosolenia setigera	160						1680	40
Rhizosolenia spp.			80					
Scrippsiella trochoidea	80		40		289		160	160
Skeletonema costatum	2240	400	40	320	578	80		40
Thalassionema nitzschioides	3200	3040	1200	2880	3468	1240	80	360
Thalassiosira anguste-lineata				80		40		
Thalassiosira baltica				80				
Thalassiosira gravida				80				
Thalassiosira punctigera	240	80			289	40		
Thalassiosira sp. (tiny)	720	240	880	9520	19363	320		
Thalassiosira spp.	320	240		320	867	120	80	
Tintinnida	480	640	200	1200		80	160	
Unarmoured dinoflagellate	80		40	240			240	40
23-Oct-01								
Actinoptychus senarius	1440	520	580	2320	1600	2600	380	
Amphidinium carterae			20					
Amphidinium sphenoides				240	120			
Amylax triacantha								20
Armoured dinoflagellate	120		80	800	160			20
Asterionellopsis glacialis	640	300	80	640	920	160	20	
Biddulphia alternans					40	40		
Centric diatom			20		120	120		
Cerataulina pelagica	80		20	80	200		20	
Ceratium fusus					40			
Ceratium lineatum	4720	100	2820	8800	4480	120	1160	3540
Ceratium longipes				160				
Chaetoceros debilis	40		120				60	

	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
23-Oct-01 (continued)								
Chaetoceros decipiens						40		
Chaetoceros didymus							20	
Chaetoceros laciniosus							20	
Chaetoceros lorenzianus							60	
Chaetoceros similis							20	20
Chaetoceros simplex				80			20	
Chaetoceros socialis	40							
Chaetoceros spp. (Hyalochaete)			40	80	120	120	60	
Commation cryoporinum			40	160	80			
Copepoda	80	20	80					
Corethron hystrix	40						20	
Coscinodiscus spp.	40	80	40	80				20
Cylindrotheca closterium	920	160	720	4080	2240	2800	300	20
Dactyliosolen fragilissimus	80	80	40	800	120	120	80	20
Detonula confervacea							20	
Dictyocha speculum	240	80	120	720	320	120	820	120
Dinophysis acuminata	400	20	200	560	240			140
Dinophysis rotundata								20
Ditylum brightwellii			20	80			40	
Ebria tripartita	80			80	40			
Eucampia zodiacus					40		40	
Eutreptiella sp.	40		60	480	280			120
Guinardia delicatula	680	160	260	880	880	840	3540	280
Guinardia flaccida	80	160	20			160		
Guinardia striata	320	80	660	640	280	240	40	
Gyrodinium spp.	80	20	80	400	80	80	60	
Gyrosigma fasciola	40							
Helicostomella spp.	80							
Helicotheca tamesis		20	20					
Heterocapsa triquetra			20					
Laboea sp.	160	20	1600				120	
Lauderia annulata				80				
Leptocylindrus danicus	3400	760	1260	1760	2880	840	60	80
Leptocylindrus mediterraneus			20					
Leptocylindrus minimus	920	660	240	800	200		120	
Mesodinium rubrum	2880	120	940	1200	240		1280	260
Navicula distans	40	20	20			40	20	
Navicula transitans var. *derasa* f. *delicatula*						40		
Odontella sinensis	200	100	20	80	160	80	80	
Paralia sulcata			20			40		
Pennate diatom			60	80	160	120		
Pleurosigma / Gyrosigma			40					
Pleurosigma angulatum		40						20
Pleurosigma strigosum					80	40	20	
Polykrikos spp.	40		20	240				100
Prorocentrum micans	40						20	
Prorocentrum sp. (small)				80				
Protoperidinium punctulatum			20					
Protoperidinium spp.	40		80	80	80		20	80
Pseudo-nitzschia delicatissima group	40	20	100	480		120		
Pseudo-nitzschia seriata group		60	60		240	80	40	
Rhizosolenia imbricata	80	80	40		120		180	
Rhizosolenia setigera	240	20	20	80		40	380	
Rhizosolenia spp.	40	20					20	
Scrippsiella trochoidea								60
Skeletonema costatum	480	40	60	160	160	160	80	
Thalassionema nitzschioides	600	560	400	1840	1720	2040	260	100
Thalassiosira anguste-lineata					80	40		

23-Oct-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Thalassiosira punctigera	40		60				80	
Thalassiosira sp. (tiny)	40	100	140	9200	5800	2680	20	
Thalassiosira spp.	40			320	80	40		
Tintinnida	360	20	600	480	200	120	140	20
Unarmoured dinoflagellate	40				80		80	
29-Oct-01								
Actinoptychus senarius	800	1020	1260	1360	960	1680	360	440
Armoured dinoflagellate	80	20	120	120	180		60	80
Asterionellopsis glacialis	120	180	40	520	80	40	80	
Asteroplanus karianus						20		
Biddulphia alternans						40		
Centric diatom				40			160	
Cerataulina pelagica	40	20	60	80				
Ceratium fusus	20	40						
Ceratium lineatum	3280	2620	2580	2360	1580		740	37572
Ceratium spp.								680
Chaetoceros debilis	120							120
Chaetoceros similis	20							40
Chaetoceros spp. (Hyalochaete)		20		40	60		100	
Commation cryoporinum	20		20	80	20	80		
Copepoda	20	60	20	40			60	
Corethron hystrix	20				40		20	
Coscinodiscus spp.		20	20	40	40	120	80	40
Cylindrotheca closterium	700	200	280	2760	1000	2400	200	400
Dactyliosolen fragilissimus	100	100	40	160	120	140	40	
Detonula confervacea	100						140	
Dictyocha speculum	100	120	20	240	80		480	320
Dinophysis acuminata	40	60	120		100		100	1040
Dinophysis fortii				40	20			
Ditylum brightwellii	40	40			40	20	120	
Ebria tripartita							20	40
Eucampia zodiacus								440
Eutreptiella sp.	20			80	40			
Gonyaulax spinifera		20						
Grammatophora marina							20	
Guinardia delicatula	460	180	300	360	180	300	900	1040
Guinardia flaccida				160		140	20	
Guinardia striata	80	40	20	320	160	320	80	80
Gyrodinium spp.		100	60	160	160		240	120
Helicostomella spp.	20		20					320
Helicotheca tamesis		20	20	40	20			
Heterocapsa triquetra		20		40				
Laboea sp.	40	60	160		20		80	6240
Leptocylindrus danicus	20	40	140		20	120		80
Leptocylindrus minimus	120	160	40	40	20		20	120
Mediopyxis helysia				40				
Membraneis challengeri				40		20		
Mesodinium rubrum	960	1300	3060	360	100	20	800	15160
Navicula distans	20	20			60	20		40
Navicula transitans var. *derasa* f. *delicatula*				80	20	20		
Odontella regia					20			
Odontella sinensis	200	140	120	560	140	120	80	
Parafavella spp.			20					
Paralia sulcata	40	20		40	20	40	20	
Pennate diatom		20			40	20	100	
Pleurosigma / Gyrosigma	60		40	40		40	20	40
Pleurosigma angulatum		20						
Pleurosigma strigosum	20	20						

29-Oct-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Polykrikos spp.	20	120		80	60		40	480
Prorocentrum micans				40				40
Prorocentrum minimum	20							40
Protoperidinium punctulatum					20			40
Protoperidinium spp.	20			40			20	40
Protoperidinium steinii					60			
Pseudo-nitzschia delicatissima group	20	40	20	120	40	60		
Pseudo-nitzschia seriata group		20	40	240	140	240	100	40
Rhizosolenia hebetata f. *semispina*				40	60			
Rhizosolenia imbricata	60	60	40	120	80	60	20	80
Rhizosolenia setigera	80	60				120	280	200
Rhizosolenia spp.					60		40	
Scrippsiella trochoidea			20	40				
Skeletonema costatum	60	20	60	120	40	60	20	
Thalassionema nitzschioides	320	540	360	1760	820	1060	140	240
Thalassiosira anguste-lineata					20			
Thalassiosira baltica		20	40					
Thalassiosira gravida						20		
Thalassiosira punctigera	20	140		120	20	60	40	120
Thalassiosira sp. (tiny)	100	180	120	3040	2720	2260		
Thalassiosira spp.	60		40	40	20	40		40
Tintinnida	120	80	20		60	80	300	1560
Unarmoured dinoflagellate	20	20	20	80	40		120	80
13-Nov-01								
Actinoptychus senarius	720	840	1060				420	340
Armoured dinoflagellate			40					20
Asterionellopsis glacialis		60						
Biddulphia alternans	20							
Centric diatom		80	20				20	
Ceratium lineatum	420	220	860				240	960
Ceratium spp.	60							
Chaetoceros debilis	20	40						
Chaetoceros laciniosus			20					
Chaetoceros similis			60				60	80
Chaetoceros simplex	40	20						
Chaetoceros spp. (Hyalochaete)	20		20					20
Commation cryoporinum							20	
Copepoda	20							
Corethron hystrix	20							20
Coscinodiscus spp.	40						40	40
Cylindrotheca closterium	660	240	280				80	180
Dactyliosolen fragilissimus		20						40
Dictyocha speculum	200	80	260				240	260
Dinophysis acuminata	40							
Ditylum brightwellii		40	40				20	
Ebria tripartita								20
Eucampia zodiacus								40
Eutreptiella sp.		20	20					
Guinardia delicatula	140	40					80	240
Guinardia flaccida	60		20					
Gyrodinium spp.	20						80	20
Helicostomella spp.		20						
Helicotheca tamesis		60	40					
Heterocapsa triquetra			20					
Laboea sp.	40						100	20
Leptocylindrus danicus		20						
Leptocylindrus mediterraneus	20							
Leptocylindrus minimus	20	20					20	20

13-Nov-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Licmophora spp.	20							
Melosira spp.		20						
Mesodinium rubrum	360	80	500				1480	1520
Navicula distans	20						20	
Odontella regia		20						
Odontella sinensis	40		20				20	
Paralia sulcata	40	60						
Pennate diatom	20							
Pleurosigma strigosum			20					80
Polykrikos spp.								40
Protoperidinium punctulatum								20
Protoperidinium spp.								20
Pseudo-nitzschia delicatissima group	60	20					60	
Pseudo-nitzschia seriata group		20					40	
Rhizosolenia setigera	140	20	20				80	160
Skeletonema costatum	40	120	20					20
Thalassionema nitzschioides	160	200	260				160	200
Thalassiosira punctigera		120	40				20	
Thalassiosira spp.	100	20	20					
Tintinnida	20	40	40				180	
Unarmoured dinoflagellate	40						20	
11-Dec-01								
Actinoptychus senarius		480	80	220	680	100	620	460
Amphidinium carterae	40							
Armoured dinoflagellate	40	20		80	40			
Asterionellopsis glacialis	20	60	60	20		80	20	
Centric diatom	100	140		60		60		180
Ceratium lineatum	20		40	20			20	160
Ceratium longipes						20		
Chaetoceros convolutus / concavicornis						20		
Chaetoceros debilis							20	120
Chaetoceros decipiens	20	20			20			20
Chaetoceros laciniosus							20	60
Chaetoceros similis								60
Chaetoceros simplex					20		40	
Chaetoceros spp. (Hyalochaete)	40			20			40	20
Chaetoceros spp. (Phaeoceros)			20					
Commation cryoporinum				20				20
Corethron hystrix			20	20	20	40	40	20
Coscinodiscus spp.	140	60	60	20	120		20	40
Cylindrotheca closterium	420	240	500	1260	400	580	860	320
Dactyliosolen fragilissimus			20					20
Dictyocha fibula			20					
Dictyocha speculum	20	20	60	100	120		140	540
Dinophysis acuminata								20
Ditylum brightwellii	80	80	80	20	100	40	120	400
Ebria tripartita			20		20			
Eutreptiella sp.	20			60		20		
Guinardia delicatula	20	40	40	20		20	40	200
Guinardia striata			20					
Gyrodinium spp.		20	40	20				80
Helicotheca tamesis				20	20	20		
Laboea sp.		40					80	
Lauderia annulata								40
Leptocylindrus danicus							20	
Leptocylindrus minimus	20							
Licmophora spp.	40	20						
Mediopyxis helysia						20		

11-Dec-01 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Melosira monoliformis			20					
Mesodinium rubrum	940	1140	320	140	120		540	1280
Navicula distans	20	100		20	40	40	40	20
Navicula transitans var. *derasa* f. *delicatula*				40		20		
Odontella regia		20						
Odontella sinensis	20	20	20	20		20		
Paralia sulcata			40			20		
Pennate diatom	20	20		100	20	40	60	80
Pleurosigma / Gyrosigma				60	60		20	20
Pleurosigma angulatum				20				
Polykrikos spp.								20
Protoperidinium spp.								20
Pseudo-nitzschia delicatissima group	40	40	40	40	20			20
Pseudo-nitzschia seriata group						60		
Rhizosolenia hebetata f. *semispina*	20			40				
Rhizosolenia imbricata								20
Rhizosolenia setigera	220	60	60		80		140	440
Rhizosolenia spp.	20		40	20			20	
Scrippsiella trochoidea					20			
Skeletonema costatum		20	20		20		20	20
Thalassionema nitzschioides	80	120	100	180	100	160	100	420
Thalassiosira baltica								80
Thalassiosira punctigera	120		120	100	160	80	120	620
Thalassiosira sp. (tiny)				80	40	100		
Thalassiosira spp.	60	60		20	40	20	120	100
Tintinnida	80	80		100	20		180	200
Unarmoured dinoflagellate	40		60		20			40
23-Jan-02								
Actinoptychus senarius							80	60
Amphidinium carterae	20						40	
Armoured dinoflagellate							40	20
Asterionellopsis glacialis								100
Asteroplanus karianus								20
Centric diatom							40	
Chaetoceros contortus	20							
Chaetoceros convolutus f. *trisetosa*	20							
Chaetoceros debilis							20	
Chaetoceros simplex								20
Chaetoceros spp. (Hyalochaete)							40	
Corethron hystrix	40						40	
Coscinodiscus spp.	40						20	20
Cylindrotheca closterium	860						340	1180
Dictyocha speculum	20						40	60
Ditylum brightwellii	80						20	40
Eutreptiella sp.	20						40	
Guinardia delicatula	40							
Gyrodinium spp.	40						40	80
Helicotheca tamesis	20							
Laboea sp.								20
Leptocylindrus minimus	20							20
Mesodinium rubrum	300						580	680
Navicula distans	20						20	40
Navicula transitans var. *derasa* f. *delicatula*	20							
Pennate diatom	80						200	220
Pleurosigma angulatum	40							20
Pleurosigma strigosum	20							
Pseudo-nitzschia delicatissima group	100							60
Rhizosolenia setigera	20							

23-Jan-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Skeletonema costatum	60							140
Thalassionema nitzschioides								60
Thalassiosira anguste-lineata								20
Thalassiosira punctigera							20	100
Thalassiosira sp. (tiny)	60							
Thalassiosira spp.	120						60	180
Tintinnida	60						180	100
Unarmoured dinoflagellate	40							
12-Feb-02								
Actinoptychus senarius		20						
Alexandrium fundyense			20					
Amphidinium carterae	40						20	
Armoured dinoflagellate			20					
Asterionellopsis glacialis	40		40				20	20
Aulacoseira ambigua								40
Biddulphia alternans		20						
Centric diatom	20	40	40					
Chaetoceros simplex								40
Commation cryoporinum							20	
Copepoda	20							
Corethron hystrix	40		20	144				20
Coscinodiscus spp.								40
Cylindrotheca closterium	180	660	360	576	1152		120	400
Dictyocha speculum		20	20	144			40	20
Ditylum brightwellii		60	80	144				
Eutreptiella sp.							20	
Gyrodinium spp.	20		20			144	60	
Gyrosigma fasciola	20							
Gyrosigma tenuissimum		20						
Laboea sp.			20					20
Leptocylindrus minimus			40					
Licmophora spp.		20						
Mesodinium rubrum	20		200				1200	120
Navicula distans	100	120	80		144		20	80
Navicula transitans var. *derasa* f. *delicatula*			60					
Paralia sulcata		40					20	
Pennate diatom	100	200	20	144	144	288	20	100
Pleurosigma / Gyrosigma		40						
Pleurosigma angulatum	40		20				20	
Prorocentrum micans	20							
Pseudo-nitzschia delicatissima group	60	180	80			144	20	100
Rhizosolenia hebetata f. *semispina*		40				144		20
Rhizosolenia setigera			20			144		
Skeletonema costatum	40	20	80		144		40	100
Staurastrum spp.								20
Thalassionema nitzschioides		20			144		60	
Thalassiosira punctigera							20	40
Thalassiosira spp.	20		60			144	20	20
Tintinnida	40	20	20	144			560	60
Unarmoured dinoflagellate							20	20
12-Mar-02								
Armoured dinoflagellate	40	40					20	
Centric diatom	80	40						
Chaetoceros spp. (Hyalochaete)	40							
Copepoda							20	
Coscinodiscus spp.		40						
Cylindrotheca closterium	460	40					20	
Ditylum brightwellii	40	20						

12-Mar-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Eutreptiella sp.	20							
Grammatophora marina							20	
Gyrodinium spp.		20						
Laboea sp.							80	
Mesodinium rubrum	240	460					1320	
Navicula distans	100							
Pennate diatom	280						140	
Pleurosigma angulatum	20						20	
Pseudo-nitzschia delicatissima group	20	20						
Skeletonema costatum	60	20						
Thalassiosira spp.	100							
Tintinnida		20					100	
Unarmoured dinoflagellate							20	
16-Apr-02								
Actinoptychus senarius						144		
Alexandrium fundyense	20	320	140					
Alexandrium ostenfeldii		80	20					
Armoured dinoflagellate	140	360	60				20	20
Asterionellopsis glacialis	40							
Aulacoseira ambigua	20							40
Centric diatom							20	
Chaetoceros convolutus / concavicornis	20			144				
Chaetoceros debilis			20					120
Chaetoceros decipiens	20			144				
Chaetoceros pseudocrinitus	20							
Chaetoceros simplex		40					20	120
Chaetoceros spp. (Hyalochaete)	120	40					40	80
Commation cryoporinum	20		20					20
Copepoda	40							20
Corethron hystrix			20	144				
Coscinodiscus spp.	20	40	20					
Cylindrotheca closterium	180	200	200	720	288	576	80	100
Dictyocha speculum	20			144				20
Dinobryon spp.		40					60	
Ditylum brightwellii	20	80	40					
Eutreptiella sp.	20		20		288			20
Fragilaria spp.	60		20					
Guinardia delicatula	20							
Gyrodinium spp.	60	480	180		144			20
Laboea sp.	160		160	144			20	40
Leptocylindrus minimus	20	40						
Licmophora spp.	20						20	20
Melosira monoliformis	80	40					40	20
Mesodinium rubrum	2740	5120	2780	432	288		900	980
Navicula distans	20	40				432	60	
Odontella obtusa	20						20	
Odontella spp.							60	
Paralia sulcata	20		20		144			
Pennate diatom		120	320	144			260	40
Porosira glacialis			20					
Protoperidinium spp.		40						
Pseudo-nitzschia delicatissima group	80	40	120		144			60
Ptychocylis spp.		40			144			
Rhizosolenia hebetata f. *semispina*	20							
Scrippsiella trochoidea	20							
Skeletonema costatum	240	320	240		144	144	20	
Thalassionema nitzschioides		80					20	
Thalassiosira anguste-lineata		40						

16-Apr-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Thalassiosira gravida	60	40						
Thalassiosira nordenskioeldii		80	40	144				20
Thalassiosira spp.	100	200	80	1008	432	288	60	420
Tintinnida	1120	3400	1760	144			220	20
Unarmoured dinoflagellate	40	40	340				60	20
16-May-02								
Actinoptychus senarius					576			
Alexandrium fundyense	80							
Alexandrium ostenfeldii								160
Amphidinium carterae			20					
Amylax triacantha			20					
Apedinella radians								160
Armoured dinoflagellate	80	180	120	288				80
Asterionellopsis glacialis		60	40		144			400
Aulacoseira ambigua	80		20			144	40	
Bacillaria paxillifera							40	
Centric diatom	80		20	144			80	
Ceratium lineatum						144		
Chaetoceros constrictus			20					
Chaetoceros contortus			40				40	
Chaetoceros convolutus				144				
Chaetoceros convolutus / concavicornis			20					
Chaetoceros debilis	400	80	40	144	144	144	480	1360
Chaetoceros decipiens	80							80
Chaetoceros diadema						288	40	
Chaetoceros furcellatus								80
Chaetoceros laciniosus		20						
Chaetoceros simplex			80				200	480
Chaetoceros spp. (Hyalochaete)	240	100	80		1296	432	1040	3760
Chaetoceros teres	80	40					40	480
Chrysochromulina parkeae								3280
Commation cryoporinum			20				40	80
Copepoda							40	
Coscinodiscus spp.		20	40					
Cylindrotheca closterium	1120	440	500		1152	720	400	1520
Dactyliosolen fragilissimus							40	
Dictyocha speculum		20	80			144		240
Dinobryon spp.							40	
Dinophysis spp.					144			
Ditylum brightwellii	80	20			144	144	40	80
Eutreptiella sp.	160	620	6160	3744	288	144		80
Fragilaria spp.		180	40				160	
Grammatophora marina			20				80	
Gyrodinium spp.	480	380	300	720	576		480	80
Gyrosigma fasciola							40	
Heterocapsa triquetra				144				160
Laboea sp.	240	20	120	288				80
Leptocylindrus minimus	720	60	120	432			80	480
Licmophora spp.		760	220				920	320
Melosira monoliformis	320	2900	760				2920	80
Mesodinium rubrum	11680	940	5560	1728		144	560	1200
Navicula distans								160
Navicula transitans var. *derasa* f. *delicatula*								80
Odontella aurita		20	80				240	
Odontella obtusa	80	860	60				200	160
Odontella spp.		240					200	
Pennate diatom		200	180	288			680	880
Pleurosigma / Gyrosigma		20						80

16-May-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Porosira glacialis			40				40	160
Prorocentrum spp.		20						
Protoperidinium bipes								80
Protoperidinium spp.		20						
Pseudo-nitzschia delicatissima group	400	220	220	432	288	288	120	7680
Rhabdonema spp.							80	
Scrippsiella trochoidea		20		144				
Skeletonema costatum	400	60	120			144	360	1360
Thalassionema nitzschioides	80	40						
Thalassiosira anguste-lineata	80	20	40	288	288	144	80	
Thalassiosira bioculata var. *exigua*		40						
Thalassiosira gravida	80	60	100			144	120	320
Thalassiosira nordenskioeldii	2160	40	360	288	432		2000	18240
Thalassiosira punctigera	80	20						
Thalassiosira sp. (tiny)			60	144				
Thalassiosira spp.	11600	1720	880	4896	12672	17136	5360	14880
Tintinnida	7520	220	540	720	144		440	400
Unarmoured dinoflagellate	80							
21-May-02								
Achnanthes sp.		20						
Actinoptychus senarius	120							
Alexandrium fundyense	100	80				144		200
Alexandrium fundyense (duplet)	20							
Amphidinium carterae		20						
Amphidinium sphenoides	40	100	600		144		160	193
Apedinella radians			80					
Armoured dinoflagellate	40		120	144			80	772
Asterionellopsis glacialis	80							
Brachionus spp.	40							
Centric diatom		60						
Chaetoceros convolutus f. *trisetosa*		80	40					386
Chaetoceros debilis	160	340	760	432	144		1120	2895
Chaetoceros decipiens	40			144	144		240	193
Chaetoceros diadema	40	20		144	144	144	320	
Chaetoceros laciniosus								193
Chaetoceros pseudocrinitus							80	
Chaetoceros simplex	200	200	120				80	386
Chaetoceros socialis		40					320	193
Chaetoceros spp. (Hyalochaete)	160	140	320	2448	432		2640	8299
Chaetoceros teres	40	20					240	
Chrysochromulina parkeae	120						160	
Commation cryoporinum		20		144	144		480	193
Copepoda							80	
Corethron hystrix								193
Coscinodiscus spp.	80	20						
Cylindrotheca closterium	280	760	1160	2304	1152		480	386
Dactyliosolen fragilissimus	40							
Dictyocha speculum	80	140	240					193
Dinophysis acuminata			80					
Ditylum brightwellii					144		80	193
Eucampia zodiacus	120							
Eutreptiella sp.	240	1700	3280	576				193
Fragilaria spp.		20						
Gyrodinium spp.	360	220	1480	432		144	1840	1930
Gyrosigma fasciola	40							
Heterocapsa triquetra	120	60	40					
Laboea sp.		80						
Lauderia annulata	200							

21-May-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Leptocylindrus minimus	720	120	240				160	772
Licmophora spp.		20				144	160	
Melosira monoliformis							80	
Melosira spp.		60	40					
Mesodinium rubrum	1640	1080	2120	288			1920	13703
Navicula transitans var. *derasa* f. *delicatula*							80	772
Odontella spp.		40						
Pennate diatom	120	200	80				160	
Porosira glacialis		20	80					
Prorocentrum minimum	40							
Protoperidinium bipes			40		144			193
Protoperidinium denticulatum							80	
Protoperidinium spp.								386
Pseudo-nitzschia delicatissima group	440	1300	2160	2448	432	288	1280	4246
Ptychocylis spp.		20	40					
Rhabdonema spp.		20						
Rhizosolenia hebetata f. *semispina*			80					
Rhizosolenia spp.			40					
Skeletonema costatum	120	20				144	80	193
Thalassionema nitzschioides		20	80					
Thalassiosira anguste-lineata		60	680	144				386
Thalassiosira gravida		220	440					772
Thalassiosira nordenskioeldii	2400	1280	4160	2880	864	144	20960	14475
Thalassiosira sp. (tiny)	40				144			
Thalassiosira spp.	5360	1960	2040	16848	9216	3024	4960	772
Tintinnida	6640	920	80	432			2000	
Unarmoured dinoflagellate		200	960	144			880	772
28-May-02								
Alexandrium fundyense		80	289				80	40
Alexandrium ostenfeldii			289					289
Amphidinium sphenoides	80		289	193	432	144	160	1156
Armoured dinoflagellate	80		289				80	1445
Asterionellopsis glacialis	240						80	
Centric diatom	80			193				289
Chaetoceros contortus				193				
Chaetoceros convolutus f. *trisetosa*	240	200	289				240	578
Chaetoceros debilis	1440	1040	1734	4053	144	144	2080	9826
Chaetoceros decipiens	240	80		1158		144		
Chaetoceros diadema	160						80	289
Chaetoceros furcellatus	2640				288		320	2023
Chaetoceros laciniosus		40						867
Chaetoceros pseudocrinitus				386				867
Chaetoceros simplex							560	
Chaetoceros socialis	1040						400	867
Chaetoceros spp. (Hyalochaete)	2720	80	1156	10808	576	1008	1200	9248
Chaetoceros teres	80	80	289	772			240	1156
Chrysochromulina parkeae	160							
Commation cryoporinum				193		144		578
Corethron hystrix					144			
Coscinodiscus spp.		40						
Cylindrotheca closterium	1280	800	2312	1930	1152	432	1200	1156
Dactyliosolen fragilissimus					144			
Dictyocha speculum	160		578	193				289
Ditylum brightwellii					144			
Eucampia zodiacus	240	80	289					
Eutreptiella sp.	240	120	2312	579				289
Gyrodinium spp.	640	520	2890	1351	288		880	578
Gyrosigma fasciola		40						

28-May-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Laboea sp.	80		578				80	289
Leptocylindrus danicus			578					289
Leptocylindrus minimus	640	400	1156	579			160	578
Licmophora spp.		40						
Melosira monoliformis	80							
Melosira spp.								289
Mesodinium rubrum	2400	1840	4335				3120	3468
Navicula distans	320	40			144	144		
Navicula transitans var. *derasa* f. *delicatula*	160						160	
Pennate diatom	80	200	867			144	160	
Pleurosigma angulatum							320	
Pleurosigma strigosum								289
Porosira glacialis	400	80	867	579				289
Protoperidinium bipes								289
Protoperidinium spp.								289
Pseudo-nitzschia delicatissima group	3120	3680	5780	5790	1152		1760	3179
Ptychocylis spp.		40	289					
Rhizosolenia hebetata f. *semispina*						144		
Skeletonema costatum	80	80					240	
Thalassionema nitzschioides							80	
Thalassiosira angulste-lineata	80	160	1734	1737			80	
Thalassiosira gravida	80	480	4335	4246	288		240	2601
Thalassiosira nordenskioeldii	30240	5440	36992	17756	576	1296	3680	33813
Thalassiosira sp. (tiny)					144			
Thalassiosira spp.	17120	4800	16762	186694	37570	13248	720	2023
Tintinnida	640	6240	3757	1351	288		1120	3179
Unarmoured dinoflagellate			1156	965	288		480	289
4-Jun-02								
Achnanthes sp.		160						
Alexandrium fundyense	240	160	160					480
Alexandrium fundyense (duplct)	80							
Alexandrium ostenfeldii		160						
Alexandrium pseudogonyaulax		160						
Amphidinium carterae			160					
Amphidinium sphenoides	240	160	480	1158	1008		40	640
Apedinella radians							40	
Armoured dinoflagellate	80		160				40	
Asterionellopsis glacialis					144		40	
Brachionus spp.		160						
Centric diatom				193				
Chaetoceros contortus					144		40	800
Chaetoceros convolutus f. *trisetosa*	160	160	320				40	160
Chaetoceros debilis	2880	2240	2400	1158	720	432	2840	12480
Chaetoceros decipiens	160		640	386				
Chaetoceros diadema				193	144			320
Chaetoceros furcellatus		320	160	386		144	840	25760
Chaetoceros laciniosus		640	480				120	1760
Chaetoceros pseudocrinitus							80	
Chaetoceros simplex							80	
Chaetoceros socialis							160	
Chaetoceros spp. (Hyalochaete)	1920	1280	5280	6948	2304	432	1760	49600
Chaetoceros teres	320	160	160				40	160
Chrysochromulina parkeae	160							
Corethron hystrix	80							
Coscinodiscus spp.	80	160	480	193				
Cylindrotheca closterium	1120	1600	1920	3667	144		800	480
Cylindrotheca gracilis		160						
Dactyliosolen fragilissimus		480						

4 Jun 02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Dictyocha speculum			160				40	320
Ditylum brightwellii		160						
Eucampia spp.		160						640
Eucampia zodiacus	240			193	432			160
Eutreptiella sp.	160	4480	1120	1544				480
Guinardia delicatula	80							
Gyrodinium spp.	160	640	960	1158	288	144	200	800
Laboea sp.								320
Lauderia annulata	320							
Leptocylindrus danicus		160	160					
Leptocylindrus minimus	640	480	480	193			440	480
Licmophora spp.		320						
Mesodinium rubrum	17920	42880	2400	1351			760	5760
Navicula distans	80				144			
Navicula transitans var. *derasa* f. *delicatula*							40	
Pennate diatom	160	160					80	
Porosira glacialis	80	320	1120					
Protoperidinium brevipes								160
Pseudo-nitzschia delicatissima group	3200	12000	17440	2123	1152	576	2000	4960
Ptychocylis spp.								160
Rhizosolenia hebetata f. *semispina*				193				320
Rhizosolenia spp.			320					
Scrippsiella trochoidea		160	160					160
Skeletonema costatum							40	
Thalassionema nitzschioides		160		386			40	
Thalassiosira anguste-lineata	560	320	1280				40	480
Thalassiosira gravida	80	1440	3520	1544	1008		120	3200
Thalassiosira nordenskioeldii	17760	22880	36320	30056	1440	288	3320	16640
Thalassiosira punctigera			160					
Thalassiosira spp.	12320	5920	14880	156060	65892	3024	1240	4000
Tintinnida	3920	23840	1120				3120	480
Unarmoured dinoflagellate	160	480	320	193	144	144	160	320
11 Jun 02								
Alexandrium fundyense	375	640			432			
Alexandrium fundyense (triplet)					144			
Amphidinium sphenoides	1875	1760	1000	2702	720	144	360	3680
Apedinella radians	125	160	500	193				
Armoured dinoflagellate	625	480	500		144		40	640
Asterionellopsis glacialis	750	160	500					
Centric diatom	1000						80	
Chaetoceros contortus	125		250		144		1000	800
Chaetoceros convolutus / concavicornis				386				160
Chaetoceros convolutus f. *trisetosa*	125	640	500				120	320
Chaetoceros debilis	1250	2560	2250	2316	1440		248540	8160
Chaetoceros decipiens		160			144		160	320
Chaetoceros furcellatus				386	720		200	2720
Chaetoceros laciniosus	250	160	2000				320	480
Chaetoceros pseudocrinitus							680	
Chaetoceros radicans				193				
Chaetoceros simplex		160					160	
Chaetoceros socialis							440	
Chaetoceros spp. (Hyalochaete)	2500	2720	5000	3860	2016	576	4040	9600
Chaetoceros spp. (Phaeoceros)		160	250					
Chaetoceros teres		160					160	480
Commation cryoporinum		160	250					
Copepoda							40	
Corethron hystrix					144			
Coscinodiscus spp.	125		250					160

11-Jun-02(continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Cylindrotheca closterium	8125	6240	6000	4439	2016	288	2880	4320
Dictyocha speculum	500	160	250				40	
Dinophysis spp.	125							
Ditylum brightwellii	125	320	500			144	40	
Eucampia zodiacus	250	320	750		144		240	
Eutreptiella sp.	12250	16800	8750	4246				1920
Grammatophora marina				193				
Guinardia flaccida							40	
Gyrodinium spp.	1500	1120	2250	1351	1152		480	1120
Heterocapsa triquetra	250							
Laboea sp.	625	160	500				40	320
Lauderia annulata								160
Leptocylindrus danicus		160	250				160	320
Leptocylindrus minimus	1500	2240	1250	1351	432		400	1120
Licmophora spp.	125		250					320
Mesodinium rubrum	7500	10080	4500	772			680	5760
Navicula distans					144		40	320
Odontella aurita	125							
Pennate diatom		800	500		144		360	480
Phaeocystis pouchetii		160						480
Pleurosigma angulatum							120	160
Porosira glacialis		480			144	144		
Prorocentrum minimum	125						40	
Protoperidinium bipes	125	320						
Protoperidinium spp.		160	250					
Pseudo-nitzschia delicatissima group	12875	14080	21500	5983	2880	288	3240	9760
Rhabdonema spp.							40	
Rhizosolenia hebetata f. *semispina*		160						
Scrippsiella trochoidea	125							
Skeletonema costatum	250						320	
Thalassionema nitzschioides				193				
Thalassiosira anguste-lineata		960	1500	386	288	432	200	320
Thalassiosira gravida	1500	4000	4750	2895	144	144	440	3040
Thalassiosira nordenskioeldii	69938	46720	47750	71094	23546	864	124848	12480
Thalassiosira punctigera		160			144	144		
Thalassiosira spp.	19000	13920	23500	118490	53754	8352	2560	8800
Tintinnida	7500	4960	4250	193	288	144	560	1760
Unarmoured dinoflagellate	125	160	1750	193			200	160
18-Jun-02								
Actinoptychus senarius						144	80	
Alexandrium fundyense	480	240	160				400	320
Alexandrium fundyense (duplet)		80	40					80
Amphidinium carterae		80	40		144			80
Amphidinium sphenoides	1280	1040	1000	3168	3456	144	880	1600
Amylax triacantha								80
Apedinella radians		80					80	160
Armoured dinoflagellate	160	560	240	144			160	400
Brachionus spp.	160						160	
Centric diatom				288				
Cerataulina pelagica								480
Chaetoceros contortus	160	640	40				5920	7920
Chaetoceros convolutus / concavicornis			40					
Chaetoceros convolutus f. *trisetosa*	320	240	40				80	
Chaetoceros debilis	3040	1280	120		144		19500	640
Chaetoceros decipiens				144				160
Chaetoceros furcellatus	160				144			80
Chaetoceros laciniosus		640						160
Chaetoceros pseudocrinitus							960	

18-Jun-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Chaetoceros radicans				144	144			
Chaetoceros simplex							640	
Chaetoceros socialis							480	
Chaetoceros spp. (Hyalochaete)	3360	2960	280	144	1008		9040	13520
Chaetoceros spp. (Phaeoceros)	160	80						
Chaetoceros teres							160	
Commation cryoporinum			40					
Copepoda	320						160	80
Corethron hystrix		80	40	144				
Cylindrotheca closterium	12000	2640	1160	1584	1152	576	4560	2160
Dactyliosolen fragilissimus				144			160	160
Dictyocha speculum	320	160	120	144			160	160
Ditylum brightwellii	640	80		144	144			80
Eucampia zodiacus		240					560	160
Eutreptiella sp.		160	51760	3600	432		80	640
Grammatophora marina						144		
Guinardia delicatula				144			160	80
Gyrodinium spp.	960	560	2800	720	576		560	320
Heterocapsa triquetra		240	80					80
Laboea sp.	480	560	400	432				
Leptocylindrus danicus					432		1440	3600
Leptocylindrus mediterraneus					288			
Leptocylindrus minimus	3360	960	160	144	144		3200	4480
Licmophora spp.			80					400
Mesodinium rubrum	8320	560	2120	432			8480	17680
Navicula distans						144		
Parafavella spp.	160							
Pennate diatom				288	288		160	
Pleurosigma angulatum	160						160	80
Pleurosigma strigosum								80
Porosira glacialis	480	160	40		288			240
Protoperidinium bipes		80						160
Protoperidinium spp.	160							
Pseudo-nitzschia delicatissima group	15680	12240	1800	1296	1728		5840	8720
Pseudo-nitzschia seriata group					288			
Ptychocylis spp.		160	160					
Rhizosolenia spp.					144			
Scrippsiella trochoidea							80	80
Skeletonema costatum							720	
Thalassionema nitzschioides						144		
Thalassiosira anguste-lineata		320	40				160	160
Thalassiosira gravida	2560	2320	80	864	720		4560	1600
Thalassiosira nordenskioeldii	20800	25920	2360	4608	4032		1840	1280
Thalassiosira sp. (tiny)				144				
Thalassiosira spp.	5760	9040	440	8496	34848	432	1040	1760
Tintinnida	800	1680	1920	720	576	576	1360	640
Unarmoured dinoflagellate	480	240	1440	432			240	320
25-Jun-02								
Actinoptychus senarius	80							
Alexandrium fundyense		160				144		640
Alexandrium ostenfeldii			40					
Alexandrium pseudogonyaulax	80							
Amphidinium sphenoides	1440	800	1120	2880	2016	288	1375	1280
Amylax triacantha	160							160
Armoured dinoflagellate	240	320	80	144		144	125	160
Asterionellopsis glacialis	80							
Aulacoseira ambigua				144				
Centric diatom			80					

25-Jun-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Cerataulina pelagica			40	288	288		375	640
Chaetoceros contortus		160	600	1728	576		2125	800
Chaetoceros convolutus / concavicornis	80			144				
Chaetoceros convolutus f. *trisetosa*	160	640	280				875	160
Chaetoceros danicus			40					
Chaetoceros debilis	1600	1600	1120	864	720		15625	2400
Chaetoceros decipiens			40	288	144			
Chaetoceros furcellatus		160			576			
Chaetoceros laciniosus	800	2080	160	288			750	
Chaetoceros pseudocrinitus			200					160
Chaetoceros radicans					144			
Chaetoceros simplex		160					125	
Chaetoceros socialis	480		440		144		2875	960
Chaetoceros spp. (Hyalochaete)	1840	2080	2440	2592	2160	144	6250	5280
Chaetoceros teres			40					
Corethron hystrix			80	288		144		
Coscinodiscus spp.	80							
Cylindrotheca closterium	10080	3680	1240	864	576	576	14750	1600
Dactyliosolen fragilissimus	320	320	240				625	640
Dictyocha speculum	240	320	40		432		500	1120
Dinophysis acuminata				144				160
Ditylum brightwellii	80	640	80	144				160
Ebria tripartita				144				800
Eucampia zodiacus	1200	1760	680	2448	1584		1500	1600
Eutreptiella sp.	80			720	720	144		
Favella spp.		160						
Guinardia delicatula			160					640
Gyrodinium spp.	480	160	120	432			500	160
Helicostomella spp.				144				
Heterocapsa triquetra	160							800
Laboea sp.				144			125	320
Leptocylindrus danicus	1680	800	2240	1728	1728		7750	36320
Leptocylindrus mediterraneus			40					160
Leptocylindrus minimus	7520	2400	4840	1872	8784		23750	53600
Licmophora spp.	160							
Mesodinium rubrum	3840	4320	2640	576	144		3250	9440
Navicula distans	160		40				125	
Navicula transitans var. *derasa* f. *delicatula*							125	
Pennate diatom	160	320	120			144	500	
Phaeocystis pouchetii							250	
Pleurosigma angulatum	80			144			500	320
Pleurosigma strigosum			40					
Porosira glacialis	320	640	80	288	144		125	
Protoperidinium spp.			40				125	800
Pseudo-nitzschia americana							125	
Pseudo-nitzschia delicatissima group	12080	21760	4600	2448	3600	576	11375	3520
Pseudo-nitzschia seriata group								480
Ptychocylis spp.				144				
Rhizosolenia setigera	160							
Scrippsiella sp.								160
Skeletonema costatum	240		120				625	
Thalassionema nitzschioides		160					125	
Thalassiosira anguste-lineata	240	160	200		144		125	160
Thalassiosira gravida	6800	12800	3720	3456	2736	288	9750	4160
Thalassiosira nordenskioeldii	8080	15360	4040	25632	10512			160
Thalassiosira punctigera		160						
Thalassiosira sp. (tiny)			80					
Thalassiosira spp.	5440	6720	3960	28512	16272	720	875	960

25-Jun-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Tintinnida	1360	320	160	864	144	144	2875	1440
Unarmoured dinoflagellate	240	320	80				250	320
2-Jul-02								
Alexandrium fundyense	240		400	193				
Amphidinium carterae			40					
Amphidinium sphenoides		320	280	4632	4608	144		
Amylax triacantha	320		40					289
Armoured dinoflagellate	800	800	240	386				578
Asterionellopsis glacialis	160	4160	80	579				
Cerataulina pelagica	800	160	280	1737	144		7200	3757
Chaetoceros contortus	480	160	40	2702	432	144	2560	1734
Chaetoceros convolutus / concavicornis							160	
Chaetoceros convolutus f. *trisetosa*	160	960						
Chaetoceros debilis	1760	320	280	1158	144		320	867
Chaetoceros decipiens	640			193			160	
Chaetoceros furcellatus			120	193	432			
Chaetoceros laciniosus	160		160				320	
Chaetoceros pseudocrinitus				193				
Chaetoceros radicans				772	144			
Chaetoceros simplex							320	
Chaetoceros socialis	1600		560				28320	6358
Chaetoceros spp. (Hyalochaete)	9440	3520	960	10036	1872	288	5600	5780
Chaetoceros spp. (Phaeoceros)		160						
Commation cryoporinum					144			
Copepoda								289
Corethron hystrix	160			772				
Coscinodiscus spp.							160	
Cylindrotheca closterium	8960	1920	960	7913	2448		15680	2023
Dactyliosolen fragilissimus	480	320	80	1158	576		1920	6936
Detonula confervacea	3040							
Dictyocha speculum	160	480	80	772			640	289
Dinobryon spp.	800	11360		1930				
Dinophysis acuminata								289
Dinophysis fortii			80					
Ditylum brightwellii	320	800	40	386	576	144		289
Ebria tripartita		160	120	579			160	2023
Eucampia zodiacus	3200	6080	360	4246	576		1120	1156
Eutreptiella sp.	640		200	579		144		289
Gonyaulax spinifera							160	
Guinardia delicatula	960	160	320	1351			3360	5491
Gyrodinium spp.	320	320		965	144			
Helicostomella spp.	320		160	193			640	1734
Heterocapsa triquetra			40					
Leptocylindrus danicus	160	1600	640	2702	1728	144	160	4335
Leptocylindrus minimus	17440	12160	7760	8878	4320	144	20160	92480
Mesodinium rubrum	5280		2680				8000	26010
Navicula distans	320				144			
Pennate diatom		160	40				800	
Pleurosigma angulatum	320		40	193				
Pleurosigma strigosum	160	160						
Porosira glacialis	1120		40	193			160	
Protoperidinium bipes		160	40	386				289
Protoperidinium brevipes							160	
Protoperidinium spp.	160	480	120					2023
Pseudo-nitzschia delicatissima group	25760	63002	9360	17756	2592	288	6400	5491
Pseudo-nitzschia seriata group	320		160					1156
Ptychocylis spp.				193				
Rhizosolenia hebetata f. *semispina*	480							

2-Jul-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Skeletonema costatum	160	800					1280	289
Thalassionema nitzschioides			40	193				
Thalassiosira anguste-lineata	480	320	80	772				
Thalassiosira gravida	3680	4320	3400	7720	1584	144	800	1445
Thalassiosira nordenskioeldii	960	2720	840	3088	6192			
Thalassiosira punctigera					144			
Thalassiosira spp.	7680	1760	1240	30056	12672	1008	960	578
Tintinnida	1280		400	965	720		800	289
Unarmoured dinoflagellate	320		40		432			289
9-Jul-02								
Alexandrium fundyense	320	6360	1600		288			160
Alexandrium fundyense (duplet)	160	560	240					
Alexandrium fundyense (planozygote)		40						
Amphidinium sphenoides		120	80	2448	2016	432		
Amylax triacantha		200						
Apedinella radians			80					
Armoured dinoflagellate	1920	760	1280	1872	144			2080
Asterionellopsis glacialis	12320	360	320	4176	2304	1152		
Brachionus spp.		4320	560					
Centric diatom					432			
Cerataulina pelagica	9600	440	880	5904	1584	576	75140	31520
Chaetoceros contortus	640	160	160	288	288	288		480
Chaetoceros convolutus				144	144			
Chaetoceros convolutus f. *trisetosa*		200	80					
Chaetoceros debilis	480	40					289	
Chaetoceros decipiens				144				
Chaetoceros furcellatus	160				432			
Chaetoceros radicans				432	1008	144		
Chaetoceros similis	320							
Chaetoceros simplex							578	
Chaetoceros socialis	9440		80				38148	4320
Chaetoceros spp. (Hyalochaete)	4160	1640	3600	9792	1872	576	6069	1760
Copepoda		720	80				289	320
Corethron hystrix	160	40	80	144				
Coscinodiscus spp.	160							
Cylindrotheca closterium	1440	480	560	4176	4752	432	2601	320
Dactyliosolen fragilissimus	2560	1240	1680	1440	1296	432	17629	7040
Detonula confervacea	1600							
Dictyocha speculum	480	320	640	1584			289	160
Dinobryon spp.	320		800	720				
Dinophysis acuminata		40		288				960
Dinophysis fortii		40						
Dinophysis norvegica								160
Dinophysis spp.	160							
Ditylum brightwellii	2720	1600	1360	2448	576	864	289	160
Ebria tripartita	320		80	288	576		578	320
Eucampia zodiacus	1920	280	560	864	2016	864		160
Eutreptiella sp.		120	80				289	320
Gonyaulax spinifera		80						
Guinardia delicatula	1440	280	480	864	288	144	28322	9120
Gyrodinium spp.	160	400	1760	288	1008	432		160
Helicostomella spp.	640		720					640
Heterocapsa triquetra	800	5560	240					1440
Laboea sp.			640	144				
Leptocylindrus danicus		480	1280	1440	1008	720		
Leptocylindrus mediterraneus		120	80					
Leptocylindrus minimus	1120	840	4240	2160	2592	1152	24276	231680
Mediopyxis helysia						144		

9-Jul-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Mesodinium rubrum	2720	4960	2880				1734	68800
Navicula distans				144				
Notholca spp.		40						
Pennate diatom			160				289	
Pleurosigma / Gyrosigma				144				
Pleurosigma angulatum	320	40						
Pleurosigma strigosum							289	
Porosira glacialis	320	80	480		432			
Prorocentrum minimum		120	80					
Prorocentrum sp. (small)				288				
Protoperidinium bipes		320	400	1440				320
Protoperidinium conicum				144				
Protoperidinium ovatum					144			
Protoperidinium spp.	320	560	1120	144	144			2240
Pseudo-nitzschia americana				288				
Pseudo-nitzschia delicatissima group	16000	9000	30240	72000	15696	4464	1445	1600
Pseudo-nitzschia seriata group				288			289	160
Rhizosolenia hebetata f. *semispina*							289	
Rhizosolenia setigera	320							
Scrippsiella sp.	480							
Scrippsiella trochoidea	480	520	80					
Skeletonema costatum	1120	280	240		288			160
Thalassionema nitzschioides	320	40	160	144	576	144		
Thalassiosira anguste-lineata	160	280	80		144	288		
Thalassiosira gravida	5120			3744	3168	1728	578	
Thalassiosira nordenskioeldii					144			
Thalassiosira punctigera				144	288	576		
Thalassiosira spp.	2240	120	480	8208	8784	3888	867	480
Tintinnida	960	280	1040	2160	576	432		800
Unarmoured dinoflagellate	480	80	720	720				640
16-Jul-02								
Alexandrium fundyense	640							
Amphidinium sphenoides			480	576	432	144		
Apedinella radians	160							
Armoured dinoflagellate	480	965	2400	288	144	144	320	578
Asterionellopsis glacialis	1120	193	320	1008			160	
Brachionus spp.	160							
Centric diatom				288	144	144		
Cerataulina pelagica	43360	8492	20000	7344	3312	288	26080	2601
Chaetoceros contortus	320	2509	960	288	288			
Chaetoceros convolutus / concavicornis	320	193			144			
Chaetoceros convolutus f. *trisetosa*	160	193	320				160	
Chaetoceros debilis		193						
Chaetoceros furcellatus						144		
Chaetoceros laciniosus	160		160					
Chaetoceros radicans				1440	144			
Chaetoceros similis							960	
Chaetoceros simplex							160	
Chaetoceros socialis	71200	41881	12640	1584	288		48640	35836
Chaetoceros spp. (Hyalochaete)	4000	18721	5280	5472	1728	2304	2560	578
Chaetoceros teres	160							
Copepoda		386						289
Corethron hystrix	160	193	160				320	
Cylindrotheca closterium	4480	2702	5600	3456	720	432	2080	578
Dactyliosolen fragilissimus	6720	7141	6720	1872	1152	1872	28480	11271
Detonula confervacea	640							
Dictyocha speculum	640	193	1600				480	867
Dinobryon spp.		579	640					

16-Jul-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Dinophysis acuminata		193						3468
Dinophysis norvegica								289
Dinophysis pulchella	320							2312
Dinophysis spp.			160					
Ditylum brightwellii	3680	2509	4000	144	432	288	320	289
Ebria tripartita	1120	193	1760	144			1120	5202
Eucampia zodiacus	320		800	864	432	144	960	
Eutreptiella sp.	1440	193	800				320	
Fragilaria spp.		579					160	
Gonyaulax spinifera								289
Guinardia delicatula	11040	4246	5600	1728	1728	1440	34720	15606
Gyrodinium spp.		193		144				
Helicostomella spp.	480	579	2080					289
Heterocapsa triquetra	480		480				160	2312
Leptocylindrus danicus		772	960	1296	288			289
Leptocylindrus mediterraneus			960				160	
Leptocylindrus minimus	5120	965	8640	1296	1440	576	32960	26010
Licmophora spp.		386	160					
Mesodinium rubrum	9600	3474	4800				1760	58378
Navicula distans					144	288		
Pennate diatom			320					867
Pleurosigma angulatum			160				160	
Pleurosigma strigosum		193	320				160	289
Porosira glacialis				288	144			
Prorocentrum spp.					288			
Protoperidinium bipes			160				160	
Protoperidinium brevipes			160					
Protoperidinium ovatum					144			
Protoperidinium spp.	1120	579	480					3179
Pseudo-nitzschia americana						144		
Pseudo-nitzschia delicatissima group	2080	7913	17280	6192	2736	2016	800	5202
Pseudo-nitzschia seriata group	640	386	640	288	288		1600	1156
Rhizosolenia hebetata f. *semispina*		579						
Rhizosolenia imbricata	160							
Rhizosolenia setigera				288				
Scrippsiella sp.			320					
Scrippsiella trochoidea			320					289
Skeletonema costatum	160		160			144	320	289
Thalassionema nitzschioides			320		288	144		
Thalassiosira anguste-lineata	160		320	144				
Thalassiosira gravida			160	576		144	320	
Thalassiosira punctigera				144	144	288		
Thalassiosira spp.	160		480	864	432	576	1280	
Tintinnida	640	386	480	432	144	288	320	
Unarmoured dinoflagellate				144				
23-Jul-02								
Actinoptychus senarius						144		
Alexandrium fundyense	10320	152014	1760	864				1120
Alexandrium fundyense (duplet)	720	5202	160					
Alexandrium fundyense (fusing)		578						
Alexandrium fundyense (planozygote)		578						
Amphidinium carterae	160	160			144			
Amphidinium sphenoides			240	144				
Armoured dinoflagellate	2400	14720	1600	1152	144			1920
Asterionellopsis glacialis	80				144	144	480	
Brachionus spp.	160		80					
Centric diatom			80		144	144	480	
Cerataulina pelagica			80			144		

23-Jul-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Ceratium lineatum					144			
Chaetoceros contortus					144	144		
Chaetoceros convolutus				144				
Chaetoceros convolutus / concavicornis					144			
Chaetoceros convolutus f. *trisetosa*	80		720					
Chaetoceros debilis	400		240	576				
Chaetoceros decipiens	80							
Chaetoceros laciniosus			240					
Chaetoceros simplex	80		80				160	320
Chaetoceros socialis	31360	320	2800	288	432	288	30880	60320
Chaetoceros spp. (Hyalochaete)	2800	480	6160	11520	4320	1584	320	160
Copepoda				144				160
Corethron hystrix	240		240	288	144			320
Cylindrotheca closterium	2720	3840	4080	3456	1440		2880	480
Dactyliosolen fragilissimus	720		640	864	2016	288	7520	2400
Dictyocha speculum	160	160	800	432	288		1440	5280
Dinobryon spp.	320	320	160					
Dinophysis acuminata			480	432				1120
Dinophysis pulchella	240							
Ditylum brightwellii	560		400	1008	864	432	800	640
Ebria tripartita	160		80	432				
Eucampia zodiacus	160				144			
Eutreptiella sp.	320	4800	1920	1440			800	320
Favella spp.	80			144				
Gonyaulax spinifera	240							
Guinardia delicatula	2880		2080	1872	2160	1728	32640	28160
Guinardia flaccida								160
Gyrodinium spp.	320	160	400	1008	432			
Helicostomella spp.	1600		560		288		160	480
Heterocapsa triquetra	8240	65920	4480	864	288			1120
Laboea sp.		160	320	288				
Leptocylindrus danicus			80		432	432		
Leptocylindrus mediterraneus	480	480	560					160
Leptocylindrus minimus			160				320	
Licmophora spp.	80							
Membraneis challengeri						144		
Mesodinium rubrum	8000	4480	5600				19840	21760
Navicula distans	80						160	
Navicula transitans var. *derasa* f. *delicatula*			160					
Parafavella spp.			80	144				
Pennate diatom	80		160	288			160	160
Pleurosigma angulatum	240		80				160	
Pleurosigma strigosum		160	160	432	288		320	160
Prorocentrum minimum			480			144		
Protoperidinium bipes			80		288			
Protoperidinium conicum				144	144			
Protoperidinium spp.	240		720			144		640
Pseudo-nitzschia delicatissima group	4000	640	5280	6624	2448	576	2240	640
Pseudo-nitzschia seriata group	80		160	432	144		800	480
Rhizosolenia hebetata f. *semispina*							160	
Scrippsiella sp.	880	16320	320					
Scrippsiella trochoidea	1200	2240	640					
Skeletonema costatum			240				800	
Thalassionema nitzschioides	80			144				
Thalassiosira gravida			80					480
Thalassiosira nordenskioeldii						144		
Thalassiosira spp.	240		160	144	288	576	2400	320
Tintinnida	640	1120	1600	3600	576		160	

23-Jul-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Unarmoured dinoflagellate	400	1280	1680	864	144		160	320
30-Jul-02								
Actinoptychus senarius					144			
Alexandrium fundyense	2320	20480	4000	288				
Alexandrium fundyense (duplet)	80	160	80					
Alexandrium fundyense (fusing)		160						
Alexandrium fundyense (planozygote)		960	240					
Alexandrium ostenfeldii			80					
Amphidinium carterae			160	144				
Amphidinium sphenoides	160	320			288			
Amylax triacantha	320							
Apedinella radians	160		80	720				
Armoured dinoflagellate	12640	4480	5360	2016	432			
Asterionellopsis glacialis						144		
Cerataulina pelagica	160				144	144		
Ceratium lineatum	160							
Ceratium longipes	160							
Chaetoceros convolutus / concavicornis		160				144		
Chaetoceros convolutus f. *trisetosa*	160	320	80					
Chaetoceros debilis	480	160	160	576	288	144		
Chaetoceros decipiens	160							
Chaetoceros laciniosus	320	480	80					
Chaetoceros socialis	76320	1760				144		
Chaetoceros spp. (Hyalochaete)	5760	10240	8480	10944	13104	3168		
Chaetoceros spp. (Phaeoceros)		160						
Corethron hystrix	160		80	144		288		
Cylindrotheca closterium	3360	1600	3120	2448	1152	1584		
Dactyliosolen fragilissimus	1280	160		144	288			
Dictyocha speculum	800	160	240	288	144			
Dinobryon spp.	160							
Dinophysis acuminata	2720		320		144			
Dinophysis pulchella			240					
Dissodinium pseudolunula	160							
Ditylum brightwellii	4480		80	288				
Ebria tripartita	160							
Eucampia zodiacus		160	80					
Eutreptiella sp.	960	1280	880	3312	576			
Favella spp.	480	160	240					
Gonyaulax digitale			2160					
Gonyaulax spinifera	640		240					
Guinardia delicatula	17280	640	960	1440	1008	1008		
Gyrodinium aureolum		800	160					
Gyrodinium spp.		960	400	144	432			
Helicostomella spp.	3840		80					
Heterocapsa triquetra	20480	16960	9840	432	288			
Laboea sp.	320		320	1440				
Leptocylindrus danicus		160			144	144		
Leptocylindrus mediterraneus	160		160					
Leptocylindrus minimus	480		80	144				
Membraneis challengeri						144		
Mesodinium rubrum	4960	320	1920	576		144		
Navicula distans						144		
Navicula transitans var. *derasa* f. *delicatula*	480	160				288		
Parafavella spp.				144				
Pennate diatom		320		720	2160			
Pleurosigma strigosum	960	160		144	288	144		
Prorocentrum minimum				288				
Prorocentrum spp.				288				

30-Jul-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Protoperidinium excentricum				432				
Protoperidinium spp.	960		160	288	288			
Pseudo-nitzschia americana				144	144			
Pseudo-nitzschia delicatissima group	5600	1600	2320	3456	3312	1152		
Pseudo-nitzschia seriata group						144		
Scrippsiella sp.	4000	4160	880					
Scrippsiella trochoidea	1280	4000	8000					
Skeletonema costatum	480		160					
Thalassionema nitzschioides	160				144			
Thalassiosira anguste-lineata	160							
Thalassiosira gravida	160				144			
Thalassiosira punctigera				144				
Thalassiosira spp.				432	288	144		
Tintinnida		800		20016	432	432		
Unarmoured dinoflagellate	2400	3520	320	2016	144			
13-Aug-02								
Actinoptychus senarius					144			40
Alexandrium fundyense		160						
Amphidinium carterae		80	80					
Amphidinium sphenoides	80	80	240					
Apedinella radians			80	144				
Armoured dinoflagellate	160	2800	1840	288	144	144		240
Asterionellopsis glacialis		80	80	144	144			
Cerataulina pelagica	80			144				
Ceratium longipes								60
Chaetoceros contortus	80		80					20
Chaetoceros convolutus f. *trisetosa*	160	80	80					
Chaetoceros debilis	3360	880	1360	1872	1152	288	160	
Chaetoceros decipiens	80							
Chaetoceros laciniosus	880	2640	2400	576		144	80	20
Chaetoceros radicans				288				
Chaetoceros simplex	560						960	80
Chaetoceros socialis	50400	23840	25760	720			80	
Chaetoceros spp. (Hyalochaete)	28800	26880	18240	53856	38304	13824	160	380
Copepoda	80							20
Corethron hystrix	480		400	288		144	160	160
Cylindrotheca closterium	1920	880	1840	720	720	288	1360	100
Dactyliosolen fragilissimus	880	1360	720	144	288		1040	140
Dictyocha speculum	640	160	240	1008	288		880	42480
Dinophysis acuminata			320					1380
Dinophysis pulchella								20
Ditylum brightwellii	5840	1120	1040	720	576	432	2400	460
Ebria tripartita			160				80	1340
Eucampia zodiacus			80	144			160	
Eutreptiella sp.	240	4320	1520	288		144	1360	100
Favella spp.		80						
Gonyaulax digitale	80							
Gonyaulax spinifera		320						60
Guinardia delicatula	8560	6880	3760	1872	1008	720	3680	240
Guinardia striata			80					
Gyrodinium aureolum		80	480					
Gyrodinium spp.	160	160	480	432	432		80	60
Helicostomella spp.	80		480			144		120
Helicotheca tamesis					144			
Heterocapsa triquetra	80	3200	4240		144			40
Laboea sp.		80		144				
Leptocylindrus mediterraneus				288				
Leptocylindrus minimus	720	880	800				1920	80

13-Aug-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Licmophora spp.	80		80				80	
Mediopyxis helysia		80	80	144				
Melosira spp.		80						
Membraneis challengeri						576		
Mesodinium rubrum	1120	560	3680			144	23120	2680
Navicula distans							80	
Paralia sulcata	80							
Pennate diatom	240		160		288		80	
Pleurosigma angulatum	240							20
Pleurosigma strigosum	800	320	160	288	432			
Prorocentrum minimum			80					
Protoperidinium bipes		80						
Protoperidinium brevipes			80					20
Protoperidinium spp.	160		80				80	80
Pseudo-nitzschia americana	80			432				40
Pseudo-nitzschia delicatissima group	3200	1280	1760	2592	3312	2160	80	40
Pseudo-nitzschia seriata group	560	160		144				60
Rhabdonema spp.								20
Rhizosolenia imbricata							80	60
Rhizosolenia spp.							160	
Scrippsiella sp.	160	1440	1360					
Scrippsiella trochoidea		320	1200					20
Skeletonema costatum	4000	4480	5600	2736	576	1584		20
Stephanopyxis turris	80							
Thalassionema nitzschioides	80	240	400	576		432		20
Thalassiosira anguste-lineata	80							
Thalassiosira gravida	640		80				2720	40
Thalassiosira sp. (tiny)	80							
Thalassiosira spp.	240		80	576	288	144		
Tintinnida	480	640	400	144	144	144	320	240
Unarmoured dinoflagellate	160	480	160	144			80	220
20-Aug-02								
Actinoptychus senarius					576			
Alexandrium pseudogonyaulax			160					
Alexandrium spp.			320					
Amphidinium carterae			320					
Amphidinium sphenoides	867	2560	4640	579	864		160	
Amylax triacantha								80
Apedinella radians		160	160				160	
Armoured dinoflagellate	1734	3040	4480		144			1560
Asterionellopsis glacialis	578	2720	2720	965	144			
Brachionus spp.								80
Centric diatom							800	
Cerataulina pelagica	289	320		193			480	160
Ceratium horridum								40
Ceratium lineatum		320	160					80
Chaetoceros contortus	578		160	193				
Chaetoceros convolutus f. *trisetosa*		320	480					
Chaetoceros debilis	4046	800	1760	579		144		
Chaetoceros decipiens					144			
Chaetoceros diadema	1734			5018	3312	576		
Chaetoceros laciniosus	2890	4320	2240					
Chaetoceros simplex	289		960				7360	240
Chaetoceros socialis	67626	29440	50560				3680	40
Chaetoceros spp. (Hyalochaete)	56644	29120	86720	62918	29088	8640	1280	280
Copepoda								240
Corethron hystrix	1156		960			144	320	160
Coscinodiscus spp.				193			160	

20-Aug-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Cylindrotheca closterium	1734	1600	4480	1351	1152	288	2240	360
Dactyliosolen fragilissimus	3757	2560	5440	1158	432		21120	760
Dictyocha speculum	289	320	640	965		144	480	2880
Dinophysis acuminata	578		160	193			160	3120
Dinophysis pulchella			160					760
Ditylum brightwellii	2023	2240	5120	4632	1584	288	6720	2200
Ebria tripartita							640	2160
Eucampia zodiacus		160					640	
Eutreptiella sp.	1156	320		193			480	440
Favella spp.	289	800						160
Gonyaulax spinifera								40
Guinardia delicatula	9537	6400	4960	2316	2016	288	11360	160
Guinardia flaccida							160	
Guinardia striata	289	960	1280	193				
Gyrodinium aureolum		320	320					120
Gyrodinium spp.	289	480	640	579	144		960	40
Helicostomella spp.	867	640	2240					1520
Heterocapsa triquetra	1445	6400	4640	193			160	480
Laboea sp.	578	1920	1280					160
Leptocylindrus danicus		160		579			160	640
Leptocylindrus mediterraneus		160						
Leptocylindrus minimus	5780	2560	7040	1158		144	28960	360
Licmophora spp.	289		320					
Mediopyxis helysia		160		193	144			
Membraneis challengeri						432		
Mesodinium rubrum	9248	6240	2880	193	144		7840	36680
Paralia sulcata			160					
Pennate diatom		320	480	193				
Pleurosigma strigosum	289				288	144		280
Polykrikos spp.		480	160					
Prorocentrum micans								40
Prorocentrum minimum			160					120
Protoperidinium bipes			160					40
Protoperidinium brevipes		160						
Protoperidinium spp.		480	320					40
Pseudo-nitzschia americana				1351	288	144	800	
Pseudo-nitzschia delicatissima group	867	160	1120	3281	3456	1152	320	240
Pseudo-nitzschia seriata group	2023	160	800	772			960	49120
Rhizosolenia imbricata							160	240
Rhizosolenia setigera		160						
Scrippsiella sp.	2312	2880	2080				320	360
Scrippsiella trochoidea		320	2240					
Skeletonema costatum	31501	18400	49600	17756	2880	864	1120	80
Thalassionema nitzschioides	289	480	160	1158	1152	720	160	
Thalassiosira anguste-lineata	289	160	160					
Thalassiosira gravida	578		320	386		288	2400	280
Thalassiosira sp. (tiny)	289				1440	288		
Thalassiosira spp.	3757	480	1600	4439	1440	576		
Tintinnida	578	2240	2720	965		144	800	2920
Tintinnopsis campanula								40
Unarmoured dinoflagellate	289	480	1600	772				120
27-Aug-02								
Amphidinium carterae		160	480	772			160	250
Amphidinium sphenoides	160	1600	3920	2895	1728			
Amylax triacantha			80					
Armoured dinoflagellate	560	2080	4240	965	288	144	160	1375
Asterionellopsis glacialis	800	640	80			288	160	
Aulacoseira ambigua				193				

27-Aug-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Brachionus spp.				193				
Centric diatom	240			193				
Cerataulina pelagica	1040	320	320	193			1280	375
Ceratium lineatum	80		240	579				2000
Ceratium longipes	160							750
Chaetoceros contortus		160	160			144		
Chaetoceros convolutus f. *trisetosa*	80	480	320					
Chaetoceros debilis	1920	1760	480	2123	144		640	
Chaetoceros decipiens	400	320	240		144			
Chaetoceros diadema	160					288		
Chaetoceros laciniosus	1840	4800	2240	2509	288			
Chaetoceros radicans					144			
Chaetoceros similis		480	160	193				
Chaetoceros simplex	560	1120	1040				1920	500
Chaetoceros socialis	8720	4320	560				2080	750
Chaetoceros spp. (Hyalochaete)	6240	28960	6480	48636	31104	1296	800	250
Commation cryoporinum					144	288		
Copepoda			80		144		160	
Corethron hystrix	560	480	400	772	144	144	480	1250
Coscinodiscus spp.			80				160	125
Cylindrotheca closterium	2480	1280	3120	2509	1152	144	1600	
Dactyliosolen fragilissimus	3040	6400	5360	2316	1152	288	17760	58956
Dictyocha speculum	640	960	1600	1544	288	144	160	3500
Dinophysis acuminata	160	800	560	386	144		480	4125
Dinophysis norvegica			80					
Dinophysis pulchella			80					
Ditylum brightwellii	4720	3360	2560	2509	2592	2016	11840	8000
Ebria tripartita	320		240	193			480	13125
Eucampia zodiacus	160	160	240		144		320	250
Eutreptiella sp.	720	3360	800	965	144		640	625
Favella spp.			80					125
Gonyaulax spinifera			240					375
Gonyaulax spp.	80							
Guinardia delicatula	2800	1920	2720	1158	1440	864	17440	1250
Guinardia striata	240	640	160	965	144			
Gyrodinium aureolum	160		960					
Gyrodinium spp.	480	320	720	965	288		640	375
Gyrosigma tenuissimum	80					144		
Helicostomella spp.	960	2400	800			144		1750
Helicotheca tamesis		160						
Heterocapsa triquetra	960	1440	2160		144			375
Laboea sp.	240	320	1040	1158			640	125
Lauderia annulata							320	
Leptocylindrus danicus	1280	800	320	1544	432	144	2240	119646
Leptocylindrus mediterraneus		160	80					
Leptocylindrus minimus	17120	13600	3120	7720	5184	144	26080	
Mediopyxis helysia	80	160						
Mesodinium rubrum	5360	1920	7280	772	432		19200	38148
Navicula distans	80							250
Parafavella spp.			160					
Pennate diatom	560	320	480	193			2560	1250
Pleurosigma angulatum	80							
Pleurosigma strigosum	160	160	80					125
Polykrikos spp.		160	560				160	
Prorocentrum minimum	160		160					250
Protoperidinium bipes			320	386				250
Protoperidinium brevipes		160	160					
Protoperidinium depressum								125

27-Aug-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Protoperidinium spp.	400		320	193			160	875
Pseudo-nitzschia americana		160		1737	1152	288	480	
Pseudo-nitzschia delicatissima group	640	1280	640	5597	2736	432	160	125
Pseudo-nitzschia seriata group	4000	8960	10960	6369	3024	432	10080	14250
Rhizosolenia hebetata f. semispina							160	
Rhizosolenia imbricata			80			144	320	500
Rhizosolenia setigera							800	375
Rhizosolenia spp.								375
Scrippsiella sp.	240	320	2080					
Scrippsiella trochoidea	80	160	1760	193				375
Skeletonema costatum	14960	13280	1680	1351	1152	144	1120	
Thalassionema nitzschioides		160	80	193	288	288		
Thalassiosira anguste-lineata	240	960	240	386	720			
Thalassiosira gravida	1600	1120	1680	579	1152	144	8000	875
Thalassiosira punctigera							160	
Thalassiosira sp. (tiny)				193				
Thalassiosira spp.	240	480	320	965	432	720	160	
Tintinnida	880	960	2960	2123	432		1280	3500
Unarmoured dinoflagellate	400	480	2160	1737	144	144	800	500
3-Sep-02								
Actinoptychus senarius						288	480	
Amphidinium carterae	578	1734	320		144			160
Amphidinium sphenoides	1156	4624	2160	864	720			
Amylax triacantha								80
Apedinella radians	289		80	144				
Armoured dinoflagellate	7514	8092	1600	2304	288	144		1600
Asterionellopsis glacialis	1734	578	320			144		
Brachionus spp.				144				
Centric diatom			80			144		
Cerataulina pelagica	3468	3468	80	720	576	144	960	160
Ceratium lineatum	867	1156	1040	288				240
Chaetoceros contortus				288	144			
Chaetoceros debilis	3757	4624	960	144	432	288	160	80
Chaetoceros decipiens	289			144			160	160
Chaetoceros didymus								80
Chaetoceros laciniosus	578	1156						
Chaetoceros similis			80			144		
Chaetoceros simplex	1156	1156					5920	1360
Chaetoceros socialis	50864	55488	10000	144			800	
Chaetoceros spp. (Hyalochaete)	5202	4624	560	1584	432		800	560
Commation cryoporinum					288	288		
Copepoda			80	144				80
Corethron hystrix	1156					144	1120	400
Cylindrotheca closterium	2601	2312	160	1728	2736	144	320	80
Dactyliosolen fragilissimus	5491	2312	320		1728	432	39360	115600
Detonula confervacea			880					
Dictyocha speculum				720				80
Dinophysis acuminata		2312	720	288			160	640
Dinophysis pulchella							160	80
Ditylum brightwellii	1445	4624	240	144	864	144	640	160
Ebria tripartita				1584			1600	560
Eucampia zodiacus							800	720
Eutreptiella sp.	1156	578		1008			160	
Favella spp.	289		80					80
Gonyaulax spinifera							160	320
Guinardia delicatula	6069	3468	800	1008	1008	720	10240	5280
Guinardia flaccida							160	80
Guinardia striata	4046	2312	560	576	1008		480	

3 Sep 02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Gyrodinium aureolum	3179	10982	10320	288				3360
Gyrodinium spp.	1445	1156	2720	432			160	480
Helicostomella spp.	867	578	1440				160	480
Heterocapsa triquetra	2023	2890	400	144				720
Laboea sp.			320	144	432		480	
Lauderia annulata				144			2240	560
Leptocylindrus danicus	4913	1156	1600	1008	1296		115040	1193200
Leptocylindrus mediterraneus	289		160	144				
Leptocylindrus minimus	8670	6936	560	720	1152	144	960	
Mesodinium rubrum	31501	65892	16080	2160	144		11040	20320
Pennate diatom	2601	578				144		
Pleurosigma strigosum	289			144				160
Polykrikos spp.			240	144			160	
Prorocentrum minimum				288				320
Protoperidinium bipes		578	160	432				
Protoperidinium brevipes			80	144				
Protoperidinium conicum				144				
Protoperidinium spp.		578	480	144				240
Pseudo-nitzschia americana				432				
Pseudo-nitzschia delicatissima group	2023	1156		27648	6336	864		
Pseudo-nitzschia seriata group	79764	231200	484400	167328	11664	1008	3040	880
Rhizosolenia hebetata f. *semispina*	289							80
Rhizosolenia imbricata							1760	
Rhizosolenia setigera			80		144		320	
Rhizosolenia spp.				144			800	80
Scrippsiella sp.	1445	2312	960	144				400
Scrippsiella trochoidea	289		160	1152				
Skeletonema costatum	10115	1734	240			144		80
Thalassionema nitzschioides	1156				144	144		
Thalassiosira anguste-lineata	289		480	432	576			
Thalassiosira gravida	4335	7514	880	432	576		6400	1280
Thalassiosira spp.	1734	1734	560	864	864			
Tintinnida	1445	11560	5040	288	288		1760	320
Unarmoured dinoflagellate	4624	16762	7120	144	144		320	720
10 Sep 02								
Amphidinium carterae	578		867	193				160
Amphidinium sphenoides		2601	2601	386	867	144		80
Armoured dinoflagellate	289	1734	6647	193	289		80	480
Asterionellopsis glacialis	1156	578	1445	1351	867	576		80
Biddulphia alternans						144		
Centric diatom							80	
Cerataulina pelagica	578	867	289	386	289	288	320	
Ceratium lineatum	578	2312	1445				80	1040
Ceratium longipes								80
Chaetoceros contortus		578			578			
Chaetoceros debilis	1734	4335	867	1351	2023			80
Chaetoceros decipiens		289		193				
Chaetoceros didymus				193				
Chaetoceros laciniosus	289	1156		193	289			
Chaetoceros lorenzianus	289						240	
Chaetoceros simplex	289	2023	2601	386	578		2000	400
Chaetoceros socialis	39882	65314	32368	7527	4624	288		
Chaetoceros spp. (Hyalochaete)	2601	6936	3468	2316	2890	288	240	160
Commation cryoporinum			289					
Copepoda		289	289					
Corethron hystrix	578	1156		193	867		640	400
Coscinodiscus spp.			289					80
Cylindrotheca closterium	4046	2601	1734	1737	1734	1152	400	320

10-Sep-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Dactyliosolen fragilissimus	2890	2890	578	1158	1445	1728	2640	17840
Dictyocha speculum		289					160	720
Dinophysis acuminata	289	289	1156				160	1040
Ditylum brightwellii	1156	2601	1445	1158	867	1296	400	160
Ebria tripartita							80	720
Eucampia zodiacus	1445	867		772	578		720	1440
Eutreptiella sp.		1156	2312		289		160	640
Gonyaulax spinifera			289					
Guinardia delicatula	1445	7803	2312	579	1734	1584	3600	1920
Guinardia flaccida							320	640
Guinardia striata		289					640	560
Gyrodinium aureolum	3179	5780	13872	386	578			560
Gyrodinium spp.	289	1445	289	386			160	480
Gyrosigma tenuissimum							80	
Helicostomella spp.	289	289						240
Heterocapsa triquetra	289	867	1445					
Laboea sp.							160	
Lauderia annulata	289	867	578	579			400	
Leptocylindrus danicus	76874	46818	40749	22774	47974	7920	72320	158960
Leptocylindrus mediterraneus		289						
Leptocylindrus minimus	578	867	289	193			1600	800
Melosira spp.								80
Mesodinium rubrum	6358	4335	14739		289		4080	10000
Navicula distans							80	
Pennate diatom	3757	2312	1445					
Pleurosigma / Gyrosigma						288		
Pleurosigma angulatum	289							80
Pleurosigma strigosum	578	289		386				240
Polykrikos spp.								80
Prorocentrum minimum	289	289	289	193	289		240	1600
Protoperidinium bipes		289	289					
Protoperidinium spp.	289	289	578					
Pseudo-nitzschia americana	1156	578		1544	3757	864	1360	160
Pseudo-nitzschia delicatissima group	12138	578	2312	31845	32946	19152	80	320
Pseudo-nitzschia seriata group	92480	168776	154904	67936	79186	56160	1840	3440
Rhizosolenia imbricata							80	
Rhizosolenia setigera		289		193			240	160
Scrippsiella trochoidea								1280
Skeletonema costatum	5202	4046	2312	1544	2601	864		240
Thalassionema nitzschioides						1008		80
Thalassiosira angusto-lineata		578	289		289			
Thalassiosira gravida	4335	8959	4624	5404	4046	1008	320	240
Thalassiosira nordenskioeldii				193				
Thalassiosira sp. (tiny)				193				
Thalassiosira spp.	289	289	289	772	1156		80	
Tintinnida	578			193			80	240
Unarmoured dinoflagellate	1156	1156	1445	386		144		160
17-Sep-02								
Actinoptychus senarius	579		480	2448	1296	576		40
Amphidinium carterae		578	80		144			40
Amphidinium sphenoides			80		288			
Armoured dinoflagellate	193	1156	1040	288	288		40	960
Asterionellopsis glacialis	193		160	288	288			
Biddulphia alternans						144		
Centric diatom							80	40
Cerataulina pelagica		578	80	144		144		80
Ceratium lineatum		1734	720	144				2280
Chaetoceros contortus		578	160	288	432	576		

17-Sep-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Chaetoceros convolutus f. *trisetosa*	193							
Chaetoceros debilis	965	1156	160	1152	864	144		
Chaetoceros decipiens				144		144		
Chaetoceros didymus			80					
Chaetoceros laciniosus		578						
Chaetoceros lorenzianus							40	
Chaetoceros simplex	386		160	144			200	
Chaetoceros socialis	2895	13294	720	1296	288			
Chaetoceros spp. (Hyalochaete)	579	1156	720	432	288	432		
Commation cryoporinum			160					
Copepoda					288			280
Corethron hystrix	1158	1734	480	288	432	1008	360	920
Coscinodiscus spp.			80				40	120
Cylindrotheca closterium	3088	2890	1760	432	1872	1152	120	
Dactyliosolen fragilissimus	193			1728	432	432	880	
Detonula confervacea	13317	63002	6560	288		144	14480	4000
Dictyocha speculum	579		320					2000
Dinophysis acuminata	193	1156	560				40	2600
Dinophysis pulchella			80					400
Ditylum brightwellii	1158	1734	640	576	432	576	80	
Ebria tripartita								1000
Eucampia zodiacus	579				144		880	760
Eutreptiella sp.	193	578	1760	144				200
Gonyaulax spp.								40
Guinardia delicatula	772	1734	160	864	1152	864	2280	800
Guinardia flaccida	193				144		480	800
Guinardia striata					144		40	
Gyrodinium aureolum	579	5780	3040	144				280
Gyrodinium spp.		578	960	288	288	576	120	600
Helicostomella spp.								760
Heterocapsa triquetra		578	320					160
Laboea sp.			160				360	
Lauderia annulata	1158	578		576	288			
Leptocylindrus danicus	193		240	7488	14832	10224	1440	
Leptocylindrus mediterraneus			80					
Leptocylindrus minimus		1156	240	432	432	144	600	440
Mesodinium rubrum	1544	1156	6400				1480	3520
Pennate diatom	386		400	720	576			
Pleurosigma / Gyrosigma			80		288			
Pleurosigma angulatum							80	
Pleurosigma strigosum	193		80	144			40	80
Polykrikos spp.								40
Prorocentrum micans								200
Prorocentrum minimum			400	144		144		9520
Protoperidinium bipes		2890						160
Protoperidinium spp.	193	578	80			432		240
Pseudo-nitzschia americana	579	5780	960	1728	720	720	40	
Pseudo-nitzschia delicatissima group	3860	4624	1840	27648	33264	9216	80	
Pseudo-nitzschia seriata group	78937	189006	22080	45504	55728	49824	680	560
Rhizosolenia hebetata f. *semispina*								40
Rhizosolenia imbricata					144		80	
Rhizosolenia setigera		578		144			600	
Rhizosolenia spp.						288		80
Scrippsiella trochoidea	386		160					760
Skeletonema costatum	772		240			576	240	
Thalassionema nitzschioides	193	578	160	576	720	1008		
Thalassiosira anguste-lineata				288	144			
Thalassiosira baltica		578						

17-Sep-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Thalassiosira gravida	1737	4624	960	1584	3168	2016		
Thalassiosira punctigera							80	
Thalassiosira sp. (tiny)			400	288	288			
Thalassiosira spp.	193	578	160	432	144	576		80
Tintinnida	193		1280		288	144	880	1960
Unarmoured dinoflagellate		1156	320					120
24-Sep-02								
Actinoptychus senarius	1734			1158	965		80	
Alexandrium fundyense								80
Amphidinium carterae				193				
Amphidinium sphenoides				193	193			
Armoured dinoflagellate		1156	867	579				80
Asterionellopsis glacialis			289			144		
Biddulphia alternans			289					
Cerataulina pelagica		578		193	579			
Ceratium lineatum	289		867	386	193		20	5120
Ceratium longipes			289	193				
Chaetoceros contortus	289			386	193	144		
Chaetoceros convolutus / concavicornis						288		
Chaetoceros debilis	289	1156		386		144		80
Chaetoceros decipiens				193	386		40	
Chaetoceros diadema						144		
Chaetoceros lorenzianus			289					
Chaetoceros simplex							140	80
Chaetoceros socialis	4913	4046	1734	579				
Chaetoceros spp. (Hyalochaete)	289			579	772	576	20	80
Commation cryoporinum	289							
Copepoda							60	160
Corethron hystrix	1156	1156		193	193	144	660	560
Coscinodiscus spp.				386	193		160	560
Cylindrotheca closterium	2023		1445	1351	772	1152	80	
Dactyliosolen fragilissimus			289	193				
Detonula confervacea	5780	4046	3757				720	
Dictyocha speculum			289				40	720
Dinophysis acuminata	289							3680
Dinophysis pulchella			289					
Ditylum brightwellii		2312	289	579	579	288	180	80
Ebria tripartita							40	160
Eucampia zodiacus	1734	578		965	1351	144	1140	16800
Eutreptiella sp.			578	193			80	320
Favella spp.								80
Gonyaulax digitale								160
Guinardia delicatula	867	578		193	193	576	260	
Guinardia flaccida					193		960	2400
Guinardia striata							280	80
Gyrodinium aureolum	289		3179	386				80
Gyrodinium spp.			867	193	386		60	
Helicostomella spp.			289					160
Helicotheca tamesis						144		
Laboea sp.	289		1156				160	720
Lauderia annulata		1156			193			
Leptocylindrus danicus		1734		2316	4246	2304		
Leptocylindrus mediterraneus			867					
Leptocylindrus minimus	1445		289				560	
Licmophora spp.							20	
Melosira monoliformis							20	
Mesodinium rubrum	1156	20808	13005		193		440	12560
Navicula distans							20	

24-Sep-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Navicula transitans var. *derasa* f. *delicatula*			289					
Paralia sulcata							20	
Pennate diatom	578						140	80
Pleurosigma / Gyrosigma				193				
Pleurosigma angulatum	289						80	
Pleurosigma strigosum				193	386		20	
Prorocentrum micans								80
Prorocentrum minimum							20	1440
Protoperidinium spp.			289	193				160
Pseudo-nitzschia americana	867			579	579	144	20	
Pseudo-nitzschia delicatissima group	4624	8092	7803	31266	19879	18864	20	160
Pseudo-nitzschia seriata group	121380	194786	90168	81060	102097	50976	180	4320
Rhizosolenia hebetata f. *semispina*							140	
Rhizosolenia spp.							40	80
Scrippsiella trochoidea							40	720
Skeletonema costatum	289				386	288	120	
Thalassionema nitzschioides					386		40	
Thalassiosira baltica						144		
Thalassiosira gravida	3179	3468	2023	2123	2895	2448		
Thalassiosira punctigera			289					
Thalassiosira spp.	289	578					20	
Tintinnida	1734	3468	578				200	2400
Unarmoured dinoflagellate	289							
8-Oct-02								
Actinoptychus senarius	880	315	160	576		1296	280	160
Amphidinium carterae						144		
Amphidinium sphenoides				144				
Armoured dinoflagellate				288			40	320
Centric diatom	320		80		144			80
Cerataulina pelagica	320	175	160					
Ceratium fusus	80							
Ceratium lineatum	1280	350	400	1440	288		120	640
Chaetoceros contortus					144			
Chaetoceros debilis	320	105	320	288		432	40	
Chaetoceros decipiens		105	80				40	
Chaetoceros simplex	80	35						
Chaetoceros socialis	320	140		144				
Chaetoceros spp. (Hyalochaete)	160	35	80	288		288	40	
Copepoda	80	245					40	240
Corethron hystrix	160	105	240		144		160	160
Coscinodiscus spp.		140	80	144		144	120	
Cylindrotheca closterium	480	315	400		720	144	120	80
Dactyliosolen fragilissimus		70					40	
Detonula confervacea			160					80
Dictyocha speculum								560
Dinophysis acuminata		70					40	960
Ditylum brightwellii	160	35	160	144	288		120	160
Ebria tripartita	400		160				80	240
Eucampia zodiacus	36720	2835	2400	1584	1440	5328	44200	144480
Eutreptiella sp.	320	140	80	144				160
Gonyaulax spinifera								80
Grammatophora marina								80
Guinardia delicatula	720	700	640	576	288	288	40	160
Guinardia flaccida	1600	105	800	576	720	144	2000	4320
Guinardia striata	80						120	
Gyrodinium aureolum			240					
Gyrodinium spp.	80	35				144		
Gyrosigma tenuissimum							80	

8-Oct-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Helicostomella spp.	160							
Laboea sp.	240	175	160				240	80
Lauderia annulata		35	80					
Leptocylindrus danicus	240	35		288	432	288		
Leptocylindrus minimus	400	105	80	144	288		80	
Mesodinium rubrum	1360	875	2800		144	144	560	9360
Pennate diatom							40	80
Pleurosigma / Gyrosigma	160	35						80
Pleurosigma angulatum	80	70						
Prorocentrum micans				144				80
Prorocentrum minimum	160						40	240
Protoperidinium conicum				144				
Protoperidinium punctulatum	80							
Protoperidinium spp.		280	320	144	144			160
Pseudo-nitzschia americana						144		
Pseudo-nitzschia delicatissima group	4000	1470	400	8928	10800	4896	120	
Pseudo-nitzschia seriata group	33920	97685	40160	36432	39888	40320	2120	6320
Rhizosolenia hebetata f. *semispina*							160	
Rhizosolenia setigera		35	80	144	144			
Rhizosolenia spp.				144		144		
Scrippsiella trochoidea	240							880
Skeletonema costatum		70						
Thalassionema nitzschioides	160							
Thalassiosira baltica		35						
Thalassiosira gravida		35		144		144		
Thalassiosira spp.	80		160		720			
Tintinnida	320	35	240		144	144	120	160
Unarmoured dinoflagellate				144				
22-Oct-02								
Actinoptychus senarius	80						320	240
Armoured dinoflagellate								160
Ceratium lineatum	120							400
Ceratium longipes	40							
Chaetoceros decipiens							40	
Chaetoceros spp. (Hyalochaete)	40							
Copepoda	40						40	
Corethron hystrix	80						160	160
Coscinodiscus spp.	160							80
Cylindrotheca closterium	240						200	160
Detonula confervacea							40	
Dictyocha speculum	40							80
Dinophysis acuminata	40						40	80
Dinophysis pulchella							40	
Ditylum brightwellii							40	80
Eucampia zodiacus	82080						178320	109840
Guinardia delicatula	120						520	720
Guinardia flaccida	160						280	240
Gyrodinium aureolum								80
Gyrodinium spp.	280						280	560
Gyrosigma fasciola								80
Helicostomella spp.	40							
Heterocapsa triquetra								80
Laboea sp.							80	160
Leptocylindrus minimus	80							
Mesodinium rubrum	320						760	1040
Pennate diatom	40						80	80
Pleurosigma angulatum	40							
Protoperidinium spp.	40						40	

22-Oct-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Pseudo-nitzschia americana								80
Pseudo-nitzschia delicatissima group	160						40	320
Pseudo-nitzschia seriata group	240						320	240
Thalassiosira sp. (tiny)	40							
Thalassiosira spp.	120							160
Tintinnida	480						40	400
5-Nov-02								
Actinoptychus senarius	420							200
Biddulphia alternans	20							
Ceratium lineatum	100						40	280
Chaetoceros simplex							40	
Chaetoceros spp. (Hyalochaete)							40	
Copepoda							40	
Corethron hystrix	120						40	120
Coscinodiscus spp.	60						80	
Cylindrotheca closterium	4640						1600	1920
Dictyocha speculum	20						80	40
Ditylum brightwellii								40
Eucampia zodiacus	10520						30240	21680
Guinardia delicatula	320						640	1240
Guinardia striata	40							
Gyrodinium spp.	380						1000	560
Helicostomella spp.	40							
Laboea sp.	40						160	
Leptocylindrus minimus	100						40	40
Mesodinium rubrum	500						1040	200
Navicula distans	60							
Odontella sinensis	20						40	40
Paralia sulcata								40
Pennate diatom	60						80	160
Pleurosigma / Gyrosigma	20							
Pleurosigma angulatum	20						40	
Polykrikos spp.	40							
Prorocentrum micans	20							
Protoperidinium depressum								40
Protoperidinium spp.							40	
Pseudo-nitzschia delicatissima group	1160						520	600
Pseudo-nitzschia seriata group								160
Rhizosolenia hebetata f. *semispina*								40
Rhizosolenia spp.							40	
Thalassionema nitzschioides	80						80	
Thalassiosira baltica	100							
Thalassiosira punctigera	100							
Thalassiosira spp.							40	40
Tintinnida	100						160	200
Unarmoured dinoflagellate	100							
12-Nov-02								
Actinoptychus senarius	180	260	600	2016	2304	288	120	
Amphidinium carterae			40					35
Amphidinium sphenoides	20			288				
Armoured dinoflagellate	60	40	80		144	144	40	35
Biddulphia alternans								35
Centric diatom						432	80	
Ceratium lineatum	220	100	280	576		432	100	700
Chaetoceros simplex			40					
Copepoda	20			144	144			35
Corethron hystrix	40	20	40				80	105
Coscinodiscus spp.	20						20	

12-Nov-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Cylindrotheca closterium	1900	640	3480	1584	2592	1008	2560	1925
Dictyocha speculum	120	60	160		432		20	140
Ditylum brightwellii							40	35
Eucampia zodiacus	4960	1480	11240	11376	18576	9360	9720	31780
Eutreptiella sp.	40							
Guinardia delicatula	880	180	840	576	864	1440	500	1575
Guinardia flaccida			120				220	
Gyrodinium aureolum			40					
Gyrodinium spp.	140	80	40	576	144	288	320	175
Heterocapsa triquetra				144				
Laboea sp.							20	70
Leptocylindrus minimus	60	60	120				80	105
Mesodinium rubrum	1180	380	3520	576	144	144	1140	2205
Navicula distans	40	20		144	432			35
Odontella sinensis		20			144	144		70
Paralia sulcata							20	70
Pennate diatom	40		40				60	35
Pleurosigma / Gyrosigma	40	20	40					
Pleurosigma angulatum		20						
Polykrikos spp.				144				
Prorocentrum micans							20	
Prorocentrum spp.			40					
Protoperidinium depressum							20	
Protoperidinium spp.	40			144		144		
Pseudo-nitzschia americana								35
Pseudo-nitzschia delicatissima group	660	100	240	720	1152	288	340	175
Pseudo-nitzschia seriata group		40	40					
Rhizosolenia setigera	20	20	40					35
Rhizosolenia spp.					144			
Scrippsiella trochoidea			40					
Skeletonema costatum	20						20	
Thalassionema nitzschioides		20	80		144		20	35
Thalassiosira anguste-lineata	20							
Thalassiosira baltica	20	20	120					70
Thalassiosira gravida				144				
Thalassiosira punctigera	60		40		144	288	20	70
Thalassiosira spp.	40		40	576		288	40	
Tintinnida	120	40	120	144		144	80	
Unarmoured dinoflagellate	20		120	144	144		20	140
3-Dec-02								
Actinoptychus senarius	160	120		720	1296		120	20
Armoured dinoflagellate	40			144				20
Asterionellopsis glacialis	20							
Centric diatom		60			144		40	80
Cerataulina pelagica								20
Ceratium lineatum	20	20	20				20	40
Chaetoceros convolutus		20						
Chaetoceros decipiens		20						
Chaetoceros simplex	20							20
Commation cryoporinum	20						20	
Copepoda		20						
Corethron hystrix	40	40	100				80	
Coscinodiscus spp.	60							
Cylindrotheca closterium	580	840	820	1152	720	288	660	460
Dictyocha fibula				144				
Dictyocha speculum	40	20	20					40
Dinobryon spp.							20	
Ditylum brightwellii	40	40			144		40	80

3-Dec-02 (continued)	3-0m	15-0m	16-0m	16-10m	16-25m	16-50m	17-0m	25-0m
Eucampia zodiacus	180	100	200	720	864	432	520	400
Eutreptiella sp.								20
Grammatophora marina							40	
Guinardia delicatula	360	240	280	288		432	280	420
Guinardia flaccida								20
Guinardia striata		40						20
Gyrodinium aureolum		40						
Gyrodinium spp.	20	20	20				40	20
Heterocapsa triquetra	20							
Laboea sp.	20	20						20
Leptocylindrus danicus		20						
Leptocylindrus mediterraneus			20					
Leptocylindrus minimus	40	40	40					20
Mesodinium rubrum	640	340	1020	144			380	340
Navicula distans	60	60		144			60	60
Odontella sinensis		60	20	144				40
Parafavella spp.						144		
Paralia sulcata			40				40	
Pennate diatom	40	100	80	144			20	20
Pleurosigma / Gyrosigma	40							20
Pleurosigma angulatum		20	20				20	
Prorocentrum minimum		20	20					
Pseudo-nitzschia americana								20
Pseudo-nitzschia delicatissima group	180	240	220	576	288	288	140	200
Pseudo-nitzschia seriata group	20				288		20	60
Rhizosolenia hebetata f. *semispina*		20	20					
Rhizosolenia imbricata								20
Rhizosolenia setigera	20					144		
Skeletonema costatum	20	20						
Thalassionema nitzschioides		20						20
Thalassiosira baltica			40					
Thalassiosira gravida	20							
Thalassiosira punctigera	20		40					
Thalassiosira spp.	40	60	20		432	144	20	40
Tintinnida	220	180	180	576	144		60	100
Unarmoured dinoflagellate	20						20	

Appendix 3. Plant nutrient, temperature and salinity data from 2001-2002.

Date	Temp. Surface	Temp. bottom	Salinity Surface	Salinity Bottom	Silicate Surface	Phosphate Surface	Nitrate Surface	Ammonia Surface	Nitrite Surface
Station #3									
9-Jan-01	4.1	4.0	31.88	31.95	7.76	0.993	8.41		0.30
13-Feb-01	2.9	2.7	32.04	32.05	7.76	1.023	8.40	0.56	0.23
20-Mar-01	3.3				7.10	0.935	7.40	1.76	0.27
1-May-01	5.1	3.9	30.88	31.00	3.62	0.460	1.08	0.75	0.06
7-May-01	6.5	3.8	28.66	31.07	7.94	0.505	1.18	1.69	0.08
15-May-01	6.6	3.9	29.62	31.01	6.29	0.620	2.37	1.56	0.15
22-May-01	7.2	4.3	30.08	30.85	5.13	0.547	2.76	1.43	0.16
4-Jun-01	6.9	6.6	30.77	30.79	2.57	0.804	3.39	2.01	0.15
12-Jun-01	9.0	8.1	30.82	30.93	2.71	0.818	2.76	2.01	0.18
19-Jun-01	10.4	7.4	30.74	31.10	1.69	0.960	1.21	1.78	0.10
26-Jun-01	11.9	8.5	30.49	31.01					
3-Jul-01	9.5	8.1	31.30	31.37	2.82	0.824	2.80	2.71	0.22
10-Jul-01	10.9	9.6	31.26	31.46	3.04	0.728	2.24	3.44	0.24
17-Jul-01	12.0	10.2	31.31	31.33	3.00	0.610	1.31	2.08	0.17
24-Jul-01	13.2	10.4	31.48	31.54	3.94	0.664	2.00	3.15	0.19
31-Jul-01	11.7	10.6	31.68	31.70	4.48	0.662	2.04	3.35	0.20
7-Aug-01	14.0	12.1	31.62	31.70	5.90	0.855	2.62	5.19	0.31
14-Aug-01	14.4	11.7	31.68	31.77	5.90	0.885	3.09	4.05	0.36
21-Aug-01	12.7	12.1	31.87	31.88	4.30	0.645	2.01	1.80	0.18
28-Aug-01	14.2	11.6	31.96	32.11	6.20	0.924	3.43	4.05	0.24
4-Sep-01	13.0	11.8	32.07	32.14	6.45	0.954	4.27	3.43	0.28
13-Sep-01	13.3	12.3	32.20	32.20	5.52	1.044	4.52	3.73	0.29
18-Sep-01	12.5	12.0	32.27	32.28	4.52	0.948	4.24	3.48	0.30
24-Sep-01	13.0	12.0	32.25	32.31	4.85	1.235	4.38	4.05	0.31
2-Oct-01	13.2				4.78	1.100	4.41	4.46	0.40
15-Oct-01	11.9	11.7	32.38	32.37	6.33	1.082	5.86	3.28	0.36
23-Oct-01	11.3	11.0	32.36	32.39	7.80	1.124	7.30	3.66	0.45
29-Oct-01	10.8	10.7	32.41	32.41	7.70	1.108	7.56	3.27	0.48
13-Nov-01	8.9	8.9	32.52	32.51	8.72	1.131	9.14	3.36	0.45
11-Dec-01	8.0	7.6	32.61	32.60	9.89	1.083	9.84	2.19	0.35
23-Jan-02	4.1	3.9	32.48	32.48	9.14	1.050	9.25	1.48	0.15
12-Feb-02	1.9	2.7	32.35	32.35	7.68	0.967	8.61	0.57	0.12
12-Mar-02	2.8	3.2		31.85	8.36	0.904	8.17	2.02	0.19
16-Apr-02	4.6	4.5	29.64	30.80	10.59	0.902	8.56	1.88	0.28
16-May-02	6.2	5.7	30.79	30.81	7.94	0.890	7.53	1.66	0.23
21-May-02	7.2	6.0	31.01	31.34	7.96	0.882	7.31	1.95	0.25
28-May-02	7.0	6.6	31.54	31.58	5.53	0.802	6.26	1.31	0.22
4-Jun-02	8.0	6.5	31.36	31.73	4.36	0.880	4.53	1.70	0.24
11-Jun-02	8.1	7.7	31.17	31.39	2.06	0.573	1.60	0.76	0.14
18-Jun-02	9.0	8.4	31.06	31.18	1.00	0.885	1.05	1.34	0.13
25-Jun-02	9.5	8.7	31.68	31.74	2.83	0.678	3.72	1.57	0.19
2-Jul-02	11.0	9.7	31.69	31.76	1.39	0.573	2.04	2.06	0.21
9-Jul-02	11.2				1.51	0.512	1.54	1.87	0.17
16-Jul-02	12.2	10.7	31.66	31.86	2.73	0.780	3.36	3.04	0.25
23-Jul-02	12.5	10.7	31.56	31.71	3.42	0.811	3.69	4.21	0.24
30-Jul-02	14.0				2.86	0.745	2.33	3.55	0.23
13-Aug-02	13.1	11.8	32.04	32.13	3.30	0.810	4.28	1.58	0.32
20-Aug-02	13.5	12.7	32.19	32.17	0.83	0.680	1.56	1.74	0.20
27-Aug-02	14.5				1.56	0.774	2.26	3.78	0.26

Date	Temp. Surface	Temp. bottom	Salinity Surface	Salinity Bottom	Silicate Surface	Phosphate Surface	Nitrate Surface	Ammonia Surface	Nitrite Surface
Station #3 (continued)									
3-Sep-02	14.5	13.8	32.23	32.24	2.83	0.813	1.79	2.24	0.22
10-Sep-02	14.0	13.3	32.39	32.42					
17-Sep-02	13.2				5.95	0.994	5.42	3.51	0.40
24-Sep-02	13.5	13.2	32.52	32.52	5.93	1.052	5.92	2.34	0.58
9-Oct-02	12.1	12.4	32.63	32.64	5.80	1.011	6.70	2.54	0.60
22-Oct-02	11.2	11.3	32.70	32.71	4.89	0.942	6.48	1.97	0.56
5-Nov-02	9.2	9.7	32.93	32.92	5.54	0.968	7.20	1.81	0.33
12-Nov-02	9.6	9.6	32.40	32.84	8.27		8.21	3.49	0.36
5-Dec-02	5.8	6.9	32.47	32.60	8.49		10.25	1.40	0.23
Station #15									
9-Jan-01	4.5	4.3	31.94	31.94	7.26	0.970	8.07	1.31	0.35
13-Feb-01	2.5	2.2	32.03	32.02	7.67	1.029	8.45	1.59	0.34
20-Mar-01	3.1				7.37	0.915	7.46	1.23	0.15
1-May-01	5.0	3.9	30.46	30.92	5.67	0.438	0.97	0.83	0.07
7-May-01	7.6	4.5	26.85	30.06	8.55	0.270	0.72	2.08	0.07
15-May-01	6.0	4.5	28.99	30.07	7.78	0.653	3.26	2.44	0.13
22-May-01	7.5	4.7	29.51	30.66	5.56	0.520	1.32	0.86	0.12
4-Jun-01	6.7	6.3	30.42	30.87	2.09	0.734	1.59	2.41	0.13
12-Jun-01	10.2	6.9	30.92	31.09	0.98	0.571	0.38	0.99	0.12
19-Jun-01	11.5	7.4	30.33	31.07	1.05	0.516	0.04	1.08	0.05
26-Jun-01	10.8	7.5	30.79	31.24					
3-Jul-01	9.3	7.8	31.33	30.91	1.82	0.672	1.86	2.18	0.20
10-Jul-01	10.4	9.2	31.30	31.35	0.92	0.513	0.54	1.16	0.11
17-Jul-01	12.1	9.3	31.17	31.45	1.90	0.412	0.05	0.63	0.04
24-Jul-01	12.5	9.3	31.38	31.61	2.98	0.572	1.04	3.50	0.14
31-Jul-01	11.3	10.1	31.67	31.72	4.44	0.663	2.61	1.57	0.23
7-Aug-01	13.6	10.3	31.63	31.83	4.10	0.629	1.36	3.34	0.19
14-Aug-01	14.1	11.0	31.70	31.84	3.36	0.655	1.19	2.75	0.14
21-Aug-01	12.6	11.5	31.85	31.93	4.32	0.642	1.39	1.03	0.17
28-Aug-01	14.2	11.4	32.07	32.09	5.45	0.704	3.24	2.18	0.21
4-Sep-01	13.3	11.5	32.02	32.16	4.78	0.770	2.82	3.72	0.22
13-Sep-01	14.0	12.2	32.20	32.21	0.76	0.636	0.12	0.79	0.07
18-Sep-01	13.2	11.8	32.25	32.28	2.46	0.816	2.10	2.02	0.29
24-Sep-01	13.3	11.8	32.28	32.31	2.18	1.211	0.67	0.96	0.14
2-Oct-01	13.3				1.93	0.740	1.00	1.25	0.20
15-Oct-01	12.2	11.5	32.33	32.42	6.12	1.010	5.68	2.33	0.41
23-Oct-01	11.2	11.0	32.43	32.45	7.68	1.030	7.46	1.70	0.42
29-Oct-01	10.9	10.5	32.44	32.44	7.24	1.032	7.40	1.36	0.47
13-Nov-01	8.1	9.0	32.60	32.60	8.36	1.031	8.96	1.63	0.39
11-Dec-01	7.8	7.7	32.67	32.67	9.71	1.042	10.04	1.76	0.31
12-Feb-02	1.2	2.4	32.31	32.33	7.10	0.920	7.87	0.54	0.13
12-Mar-02	2.8	3.3	31.93	32.05	8.72	0.974	8.66	1.02	0.16
16-Apr-02	4.3	4.2	28.79	29.77	11.93	0.918	9.57	1.61	0.23
16-May-02	5.4	5.4	30.11	30.95	8.83	0.846	8.01	1.28	0.20
21-May-02	7.1	6.0	31.17	31.34	7.07	0.759	6.99	1.08	0.22
28-May-02	8.6	6.1	31.55	31.62	5.54	0.680	4.19	1.06	0.22
4-Jun-02	7.4	6.4	31.56	31.72	1.99	0.648	0.59	0.73	0.11
11-Jun-02	8.1	7.2	31.25	31.47	1.65	0.554	1.32	1.11	0.12
18-Jun-02	9.2	7.8	30.96	31.30	1.35	0.989	0.37	1.37	0.11

Date	Temp. Surface	Temp. bottom	Salinity Surface	Salinity Bottom	Silicate Surface	Phosphate Surface	Nitrate Surface	Ammonia Surface	Nitrite Surface
Station #15 (continued)									
25-Jun-02	9.3	7.8	31.65	31.84	2.54	0.584	2.78	1.02	0.18
2-Jul-02	11.5	9.2	31.64	31.83	0.30	0.295	0.20	0.58	0.07
9-Jul-02	11.9				0.63	0.390	0.35	1.52	0.12
16-Jul-02	11.3	10.2	31.77	31.89	0.85	0.462	0.81	0.95	0.15
23-Jul-02	14.2	11.3	31.12	31.36	3.64	0.802	1.66	1.64	0.19
30-Jul-02	14.2				2.57	0.718	1.77	2.96	0.19
13-Aug-02	15.5	11.6	32.43	32.22	0.44	0.468	0.17	1.28	0.11
20-Aug-02	14.8	13.2	32.11	32.13	0.52	0.431	0.08	0.75	0.09
27-Aug-02	14.0				0.92	0.514	1.17	0.87	0.18
3-Sep-02	14.5	13.5	32.22	32.25	0.84	0.461	0.07	0.50	0.06
10-Sep-02	14.1	13.2	32.41	32.43					
17-Sep-02	13.5	12.6	32.45	32.54	4.04	0.719	4.09	1.22	0.33
24-Sep-02	13.3	12.8	32.53	32.63					
9-Oct-02	12.2	12.3	32.66	32.65	7.02	0.986	6.29	2.49	0.53
12-Nov-02	10.0	9.6	32.66	32.93	7.57	0.757	7.95	2.16	0.33
5-Dec-02	6.3	6.9		32.71	8.33		10.81	1.21	0.24
Station #17									
9-Jan-01	3.1	3.2	31.23	31.62	9.54	1.084	8.67	3.41	0.41
13-Feb-01	1.3	2.0	31.29	31.76	9.37	1.018	8.65	2.18	0.38
20-Mar-01	1.9				7.19	1.021	6.68	2.08	0.31
1-May-01	5.3	4.0	28.50	30.33	8.82	0.543	1.38	3.17	0.08
7-May-01	6.0	5.1	28.14	29.65	7.94	0.566	2.04	3.19	0.13
15-May-01	6.5	5.7	28.46	29.97	6.02	0.454	2.00	2.00	0.10
22-May-01	7.8	6.4	28.83	29.83	9.20	0.621	2.71	1.78	0.16
30-May-01	7.9	6.4	29.79	30.62	6.79	0.644	3.09	2.74	0.15
4-Jun-01	8.1	6.9	29.95	30.48	6.52	1.130	3.46	2.96	0.19
12-Jun-01	9.2	7.3	29.99	30.69	3.66	0.779	2.70	2.46	0.18
19-Jun-01	11.8	9.1	29.66	30.28	2.32	0.692	1.47	2.26	0.17
26-Jun-01	10.6	9.5	30.15	30.56					
3-Jul-01	11.2				3.58	0.781	3.42	3.27	0.25
10-Jul-01	11.2	10.4	30.57	30.80	3.54	0.710	2.90	2.88	0.27
17-Jul-01	13.0	11.2	30.07	30.82	2.83	0.604	0.31	0.97	0.08
24-Jul-01	12.8	12.0	30.64	30.68	2.42	0.541	1.01	6.61	0.21
30-Jul-01	12.5	11.5	30.97	31.35	4.43	0.685	2.22	5.32	0.20
7-Aug-01	13.5	12.9	31.06	31.27	4.52	0.666	1.19	4.03	0.13
14-Aug-01	14.0	12.2	31.25	31.67	4.77	0.730	1.56	3.87	0.15
21-Aug-01	14.0	13.4	30.96	31.18	4.96	0.840	1.87	2.30	0.21
28-Aug-01	13.6	12.5	31.29	31.76	5.58	0.790	2.11	1.76	0.19
4-Sep-01	13.4	13.3	31.37	31.38	6.28	0.776	2.49	2.05	0.21
13-Sep-01	13.8	12.9	31.62	31.99	5.53	0.754	2.31	3.48	0.17
18-Sep-01	13.3	13.0	31.58	31.71	8.15	0.975	3.90	3.13	0.28
24-Sep-01	13.1	12.3	31.86	32.17	11.34		4.81	3.76	0.34
2-Oct-01	12.3				10.00	1.172	5.82	3.29	0.39
15-Oct-01	12.2	12.0	31.65	31.97					
23-Oct-01	10.5	11.2	31.28	32.18	8.00	0.970	6.41	3.05	0.41
29-Oct-01	10.8	10.7	31.54	31.98	9.93	1.112	8.02	2.57	0.52
13-Nov-01	8.6	8.7	31.89	31.90	9.45	1.078	8.68	2.34	0.50
11-Dec-01	7.0	7.3	32.11	32.10	10.81	1.109	10.59	1.23	0.47
23-Jan-02	3.2	3.1	31.62	31.68	11.44	1.122	10.59	2.02	0.21

Date	Temp. Surface	Temp. bottom	Salinity Surface	Salinity Bottom	Silicate Surface	Phosphate Surface	Nitrate Surface	Ammonia Surface	Nitrite Surface
Station #17 (continued)									
12-Feb-02	0.8	1.5	31.85	31.99	8.80	0.953	8.34	1.13	0.14
12-Mar-02	1.3	2.9	28.55	30.65	14.37	0.933	8.91	2.08	0.16
16-Apr-02	5.1	4.4	24.67	30.41	13.11	0.659	5.94	1.95	0.20
16-May-02	6.3	6.1	28.27	30.63	8.94	0.819	6.80	1.65	0.24
21-May-02	7.1	6.2	30.34	30.92	6.57	0.788	5.82	1.66	0.20
28-May-02	8.5	7.8	29.81	30.19	6.15	0.719	5.33	1.99	0.21
4-Jun-02	8.1	7.5	31.31	31.41	4.82	0.752	5.36	1.89	0.25
11-Jun-02	9.3	8.9	30.41	30.62	2.98	0.803	3.93	1.27	0.21
18-Jun-02	9.3	8.5	31.04	31.39	1.07	0.692	1.95	2.37	0.16
25-Jun-02	10.5	10.6	30.45	30.60	1.03	0.822	1.43	1.06	0.14
2-Jul-02	12.0	10.0	30.88	31.55	0.85	0.335	1.51	2.27	0.14
9-Jul-02	14.5				1.14	0.320	0.35	2.67	0.11
16-Jul-02	12.3	11.3	30.58	31.36	2.97	0.587	1.79	1.35	0.17
23-Jul-02	13.5	11.9	30.34	31.33	4.86	0.778	3.47	2.57	0.22
13-Aug-02	15.0	13.7	30.82	31.18	7.51	0.930	4.75	2.07	0.38
20-Aug-02	15.0	14.3	31.01	31.44	6.05	0.811	3.56	1.50	0.34
27-Aug-02	14.3				5.12	0.848	3.49	1.56	0.31
3-Sep-02	14.6	13.6	31.55	31.98	4.83	0.766	2.11	1.58	0.21
10-Sep-02	14.8	14.0	31.78	31.86					
17-Sep-02	13.8	13.4	31.34	31.85	7.06	0.875	4.65	2.41	0.37
24-Sep-02	14.5	13.5	30.81	32.01	8.42	0.992	5.86	2.33	0.57
9-Oct-02	12.2	12.7		31.68	6.54	1.075	7.13	1.48	0.87
22-Oct-02	10.5	11.0	30.83	31.64	3.03	0.892	4.27	1.71	0.63
5-Nov-02	9.0	9.2		32.42	4.56	0.977	5.82	1.90	0.38
12-Nov-02	9.0	9.2		32.51	5.71	0.531	6.61	2.09	0.29
5-Dec-02	4.9	6.1	29.95	31.64	11.21		9.64	1.58	0.24
Station #25									
9-Jan-01	3.8	3.8	31.96	31.96	7.78	1.028	8.28	1.41	0.30
13-Feb-01	3.0	2.8	32.01	32.02	7.44	0.986	8.25	0.75	0.33
20-Mar-01	3.6				4.58	0.699	4.89	1.67	0.20
1-May-01	5.9	3.7	28.76	30.92	5.05	0.386	0.26	2.27	0.06
7-May-01	7.7	4.3	29.27	30.71	5.56	0.374	0.35	1.78	0.08
15-May-01	5.9	4.6	29.93	30.75	7.90	0.671	3.40	1.38	0.19
22-May-01	9.1	5.3	29.73	29.47	6.26	0.454	0.32	0.83	0.10
30-May-01	10.9	5.9	29.95	30.77	2.12	0.297	0.00	0.84	0.05
4-Jun-01	6.9	6.3	30.81	30.49	3.83	1.014	3.32	2.48	0.20
12-Jun-01	9.6	6.9	30.12	30.99	0.99	0.501	0.48	1.44	0.10
19-Jun-01	10.7	7.6	29.01	30.97	0.63	0.514	0.35	0.93	0.09
26-Jun-01	11.9	8.3	30.50	31.06					
3-Jul-01	11.0	8.7	30.94	31.00	1.23	0.592	1.15	2.09	0.17
10-Jul-01	11.3	9.1	30.97	31.36	0.02	0.542	0.15	1.19	0.08
17-Jul-01	12.9	9.6	31.00	31.40	1.36	0.396	0.06	1.46	0.05
24-Jul-01	12.2	10.3	31.23	31.52	2.95	0.496	0.82	1.57	0.14
31-Jul-01	13.6	10.5	31.22	31.72	5.11	0.785	3.16	2.56	0.26
7-Aug-01	13.7	11.2	31.50	31.79	2.86	0.517	0.52	3.20	0.09
14-Aug-01	14.5	11.6	31.49	31.81	2.10	0.486	0.46	2.85	0.09
21-Aug-01	12.8	11.7	31.78	31.94	4.36	0.651	1.89	2.06	0.15
28-Aug-01	13.6	11.7	31.81	32.07	3.12	0.589	0.88	1.35	0.11
4-Sep-01	14.1	12.0	31.83	32.10	2.72	0.690	0.39	3.02	0.23

Date	Temp. Surface	Temp. bottom	Salinity Surface	Salinity Bottom	Silicate Surface	Phosphate Surface	Nitrate Surface	Ammonia Surface	Nitrite Surface
Station #25 (continued)									
13-Sep-01	14.3	12.1	32.06	32.22	4.72	0.738	1.06	1.72	0.16
18-Sep-01	15.1	12.0	32.21	32.29	5.76	0.778	2.28	1.56	0.23
24-Sep-01	13.8	11.9	32.15	32.32	8.05	1.293	3.50	2.22	0.32
2-Oct-01	13.1				4.85	0.860	5.32	1.55	0.34
15-Oct-01	12.0	11.5	32.29	32.35	6.98	1.026	5.78	1.50	0.33
23-Oct-01	11.3	11.1	32.20	32.35	7.86	1.030	6.60	1.57	0.45
29-Oct-01	10.9	10.8	32.26	32.37	8.54	1.068	7.28	1.70	0.51
13-Nov-01		9.3	32.40	32.51	7.99	1.002	8.10	2.43	0.46
11-Dec-01	7.3	7.9	32.35	32.62	9.83	1.000	9.91	1.32	0.50
23-Jan-02	4.3	4.0	32.49	32.50	10.55	1.132	10.32	1.27	0.18
12-Feb-02	1.3	2.4	32.27	31.78	9.67	1.064	9.65	0.82	0.15
16-Apr-02	5.8	4.2	29.06	31.13	7.69	0.610	5.14	0.89	0.14
16-May-02	6.5	5.8	30.40	31.16	1.57	0.365	0.72	1.07	0.12
21-May-02	9.2	6.0	30.44	31.28	4.20	0.308	0.35	1.44	0.08
28-May-02	7.3	6.7	31.10	31.47	1.95	0.537	2.57	1.34	0.15
4-Jun-02	9.5	7.1	31.08	31.58	0.50	0.668	0.38	0.57	0.08
11-Jun-02	8.6	7.6	31.56	30.80	2.15	0.734	3.43	1.70	0.17
18-Jun-02	9.3	8.2	31.28	31.44	1.20	0.921	1.61	1.98	0.18
25-Jun-02	10.3	8.8	31.28	31.63	1.22	0.501	1.59	1.02	0.14
2-Jul-02	11.8	9.4	31.24	31.80	0.31	0.328	0.32	0.78	0.08
9-Jul-02	14.1				0.27	0.281	0.20	0.96	0.11
16-Jul-02	13.0	10.4	31.12	31.82	0.96	0.351	0.38	0.61	0.10
23-Jul-02	14.0	10.9	31.34	31.74	2.78	0.582	1.97	1.36	0.18
13-Aug-02	14.0	12.0	31.84	32.02	4.88	0.754	3.79	1.55	0.32
20-Aug-02	16.2	12.5	31.58	32.15	3.03	0.396	0.08	1.07	0.08
27-Aug-02	15.1				1.85	0.541	0.62	1.25	0.12
3-Sep-02	15.2	13.0	31.79	32.24	1.24	0.463	0.04	0.52	0.06
10-Sep-02	14.3	13.1	32.30	32.38					
17-Sep-02	14.3				6.25	0.775	3.40	1.60	0.32
24-Sep-02	13.8	13.0	32.24	32.51	6.43	0.797	5.17	1.43	0.53
9-Oct-02	12.5	12.6	32.40	32.59	2.85	0.774	3.33	1.27	0.50
22-Oct-02	11.2	11.5	32.67	32.73	3.31	0.816	4.53	0.67	0.40
5-Nov-02	9.5	9.9	32.87	32.88	5.14	0.933	6.99	1.64	0.33
12-Nov-02	9.5	9.6	32.41	32.84	5.90		7.49	1.60	0.32
5-Dec-02	5.9	7.3	32.39	32.51	8.75		10.62	1.28	0.21

Date	Depth	Temp.	Salinity	Silicate	Phosphate	Nitrate	Ammonia	Nitrite
Station #16 (continued)								
29-Oct-01	0 m	10.9	32.48	6.59	1.065	7.32	0.66	0.37
29-Oct-01	10 m	10.7	32.48	6.31	0.997	7.24	0.08	0.35
29-Oct-01	25 m	10.7	32.48	6.30	0.994	7.27	0.22	0.34
29-Oct-01	50 m	10.4	32.57	7.91	1.011	8.01	0.65	0.35
13-Nov-01	0 m	9.1	32.58	8.26	1.055	9.36	1.84	0.39
13-Nov-01	10 m	9.4	32.59					
13-Nov-01	25 m	9.4	32.58					
13-Nov-01	50 m	9.6	32.91					
11-Dec-01	0 m	7.8	32.75	9.77	1.033	10.54	1.08	0.31
11-Dec-01	10 m	8.3	32.75	9.67	1.062	10.59	0.37	0.31
11-Dec-01	25 m	8.3	32.77	9.06	0.978	10.03	0.94	0.30
11-Dec-01	50 m	8.4	32.80	9.47	1.037	10.31	0.47	0.26
12-Feb-02	0 m	2.3	32.44	8.65	1.037	8.91	0.91	0.15
12-Feb-02	10 m	3.5	32.44	7.16	0.936	7.57	0.87	0.12
12-Feb-02	25 m	3.4	32.44	6.76	0.888	7.09	1.12	0.16
12-Feb-02	50 m	3.5	32.44	8.82	1.029	9.04	1.43	0.15
16-Apr-02	0 m	4.1	30.91	9.63	0.937	8.93	0.59	0.19
16-Apr-02	10 m	4.2	31.34	9.03	0.952	8.59	0.45	0.19
16-Apr-02	25 m	4.1	31.56	8.52	0.866	7.99	1.33	0.23
16-Apr-02	50 m	3.8	31.79	8.52	0.944	7.91	0.78	0.22
16-May-02	0 m	5.3	31.72	8.45	0.879	8.47	1.27	0.21
16-May-02	10 m	5.4	30.95	8.21	0.831	8.30	0.57	0.20
16-May-02	25 m	5.3	31.45	7.70	0.881	8.46	0.59	0.21
16-May-02	50 m	5.3	31.80	7.96	0.919	8.96	0.72	0.21
21-May-02	0 m	6.9	31.14	6.76	0.766	6.67	1.42	0.21
21-May-02	10 m	5.7	31.37	7.33	0.857	8.07	0.87	0.21
21-May-02	25 m	5.4	31.83	7.75	0.923	8.70	0.76	0.21
21-May-02	50 m	5.3	32.14	8.06	0.977	9.67	0.52	0.19
28-May-02	0 m	7.5	31.61	2.20	0.427	0.65	2.04	0.11
28-May-02	10 m	6.4	31.66	3.93	0.596	3.58	0.31	0.17
28-May-02	25 m	5.7	31.95	7.06	0.859	8.23	0.94	0.23
28-May-02	50 m	5.7	31.97	7.25	0.878	8.50	1.00	0.22
4-Jun-02	0 m	7.2	32.10	2.06	0.868	0.57	0.59	0.10
4-Jun-02	10 m	6.8	31.69	2.64	0.805	2.50	0.39	0.15
4-Jun-02	25 m	6.0	31.83	6.72	1.051	7.87	0.66	0.22
4-Jun-02	50 m	6.1	32.17	6.97	1.100	9.18	0.69	0.23
11-Jun-02	0 m	7.5	31.31	1.34	0.584	0.52	0.87	0.08
11-Jun-02	10 m	7.3	31.59	2.28	0.731	2.98	0.48	0.15
11-Jun-02	25 m	6.6	31.86	4.46	0.931	6.22	0.77	0.21
11-Jun-02	50 m	6.3	32.20	6.30	1.003	8.12	1.45	0.22
18-Jun-02	0 m	9.1	31.11	3.62	0.768	4.82	1.92	0.23
18-Jun-02	10 m	7.9	31.28	3.69	0.795	5.30	0.95	0.22
18-Jun-02	25 m	7.2	31.78	3.80	0.902	5.75	1.20	0.22
18-Jun-02	50 m	6.8	32.24	6.02	1.060	8.36	1.05	0.23
25-Jun-02	0 m	9.1	31.75	3.25	1.026	4.59	1.53	0.21
25-Jun-02	10 m	8.3	31.87	3.87	1.123	5.46	0.98	0.22
25-Jun-02	25 m	8.0	31.94	4.27	0.827	5.99	1.13	0.21
25-Jun-02	50 m	7.2	32.33	6.62	1.009	9.27	0.91	0.22
2-Jul-02	0 m	9.8	31.89	1.89	0.583	3.36	1.04	0.22
2-Jul-02	10 m	9.0	31.91	1.93	0.591	3.53	0.63	0.18
2-Jul-02	25 m	8.1	32.01	4.50	0.818	6.92	1.22	0.23
2-Jul-02	50 m	7.6	32.34	7.65	1.008	9.28	0.99	0.20
9-Jul-02	0 m	11.5		0.14	0.264	0.09	0.86	0.07
9-Jul-02	10 m			1.02	0.463	1.97	0.70	0.16

Date	Depth	Temp.	Salinity	Silicate	Phosphate	Nitrate	Ammonia	Nitrite
Station #16 (continued)								
9-Jul-02	25 m			2.41	0.660	4.49	1.23	0.21
9-Jul-02	50 m			4.71	0.803	6.79	2.24	0.23
16-Jul-02	0 m	10.1	32.01	2.55	0.611	3.80	1.41	0.20
16-Jul-02	10 m	9.3	32.12	4.37	0.794	6.11	1.29	0.21
16-Jul-02	25 m	9.0	32.17	4.29	0.766	5.95	1.52	0.21
16-Jul-02	50 m	8.7	32.31	5.74	0.882	6.63	1.26	0.20
23-Jul-02	0 m	12.0	31.42	2.64	0.617	3.20	1.64	0.21
23-Jul-02	10 m	10.9	31.70	2.46	0.601	3.05	0.61	0.18
23-Jul-02	25 m	10.1	32.03	4.84	0.859	6.09	1.20	0.24
23-Jul-02	50 m	9.0	32.38	5.91	0.936	7.68	0.99	0.20
30-Jul-02	0 m	13.2		2.30	0.566	2.24	1.52	0.16
30-Jul-02	10 m			3.11	0.680	3.49	0.82	0.23
30-Jul-02	25 m			3.42	0.714	4.19	0.85	0.24
30-Jul-02	50 m			6.15	0.946	7.29	1.14	0.24
13-Aug-02	0 m	13.0	32.11	2.32	0.610	2.13	0.71	0.21
13-Aug-02	10 m	11.4	32.20	3.69	0.695	4.60	0.56	0.26
13-Aug-02	25 m	11.0	32.28	4.90	0.784	6.00	0.44	0.27
13-Aug-02	50 m			6.17	0.845	7.29	0.51	0.28
20-Aug-02	0 m	14.3	32.08	0.29	0.273	0.20	0.46	0.08
20-Aug-02	10 m	12.3	32.19	1.88	0.707	3.63	0.51	0.30
20-Aug-02	25 m	11.2	32.35	5.45	0.941	7.26	0.92	0.34
20-Aug-02	50 m	10.1	32.64	7.76	1.003	8.85	0.66	0.29
27-Aug-02	0 m	13.8		1.42	0.488	1.00	1.07	0.16
27-Aug-02	10 m			2.33	0.629	3.11	0.87	0.24
27-Aug-02	25 m			3.67	0.712	4.74	1.20	0.27
27-Aug-02	50 m			7.38	1.009	8.61	1.04	0.28
3-Sep-02	0 m	14.3	32.29	0.80	0.445	0.05	1.34	0.06
3-Sep-02	10 m	13.0	32.31	2.55	0.570	1.91	0.77	0.19
3-Sep-02	25 m	11.7	32.50	6.20	0.899	6.79	1.23	0.32
3-Sep-02	50 m	10.5	32.87	8.56	0.993	9.54	0.75	0.24
10-Sep-02	0 m	13.8	32.48					
10-Sep-02	10 m	12.6	32.50					
10-Sep-02	25 m	12.3	32.58	5.69	0.868	6.25	0.75	0.31
10-Sep-02	50 m	11.4	32.79					
17-Sep-02	0 m	13.2	32.57	5.63	0.703	6.19	0.65	0.39
17-Sep-02	10 m	12.4	32.61	5.15	0.752	5.89	0.87	0.38
17-Sep-02	25 m	12.3	32.64	6.07	0.914	6.75	0.75	0.36
17-Sep-02	50 m	11.5	32.82					
24-Sep-02	0 m	13.6	32.62	5.16	0.781	5.72	1.07	0.42
24-Sep-02	10 m	12.7	32.66	5.49	0.819	6.33	0.39	0.40
24-Sep-02	25 m	12.3	32.74	6.68	0.935	7.34	0.50	0.40
24-Sep-02	50 m	11.8	32.87					
9-Oct-02	0 m	12.1	32.86	7.30	0.960	8.00	4.01	0.43
9-Oct-02	10 m	12.2	32.86	7.45	0.935	8.11	0.32	0.42
9-Oct-02	25 m	12.1	32.92	7.46	0.919	8.33	0.35	0.41
9-Oct-02	50 m	11.9	33.03	8.58	1.069	9.50	0.38	0.32
12-Nov-02	0 m	9.6	32.97	6.60	0.810	9.03	1.24	0.31
12-Nov-02	10 m	9.8	32.97	6.64	0.939	8.90	1.08	0.29
12-Nov-02	25 m	9.8	32.99	6.58	0.877	8.79	1.03	0.28
12-Nov-02	50 m	9.8	33.00	6.07	0.784	8.05	1.59	0.24
5-Dec-02	0 m	6.8	32.76	7.63		10.47	0.82	0.19
5-Dec-02	10 m	8.0	32.76	8.71		9.91	0.55	0.17
5-Dec-02	25 m	8.1	32.79	7.76		10.26	0.33	0.17
5-Dec-02	50 m	8.2	32.83	7.67		10.19	0.47	0.17